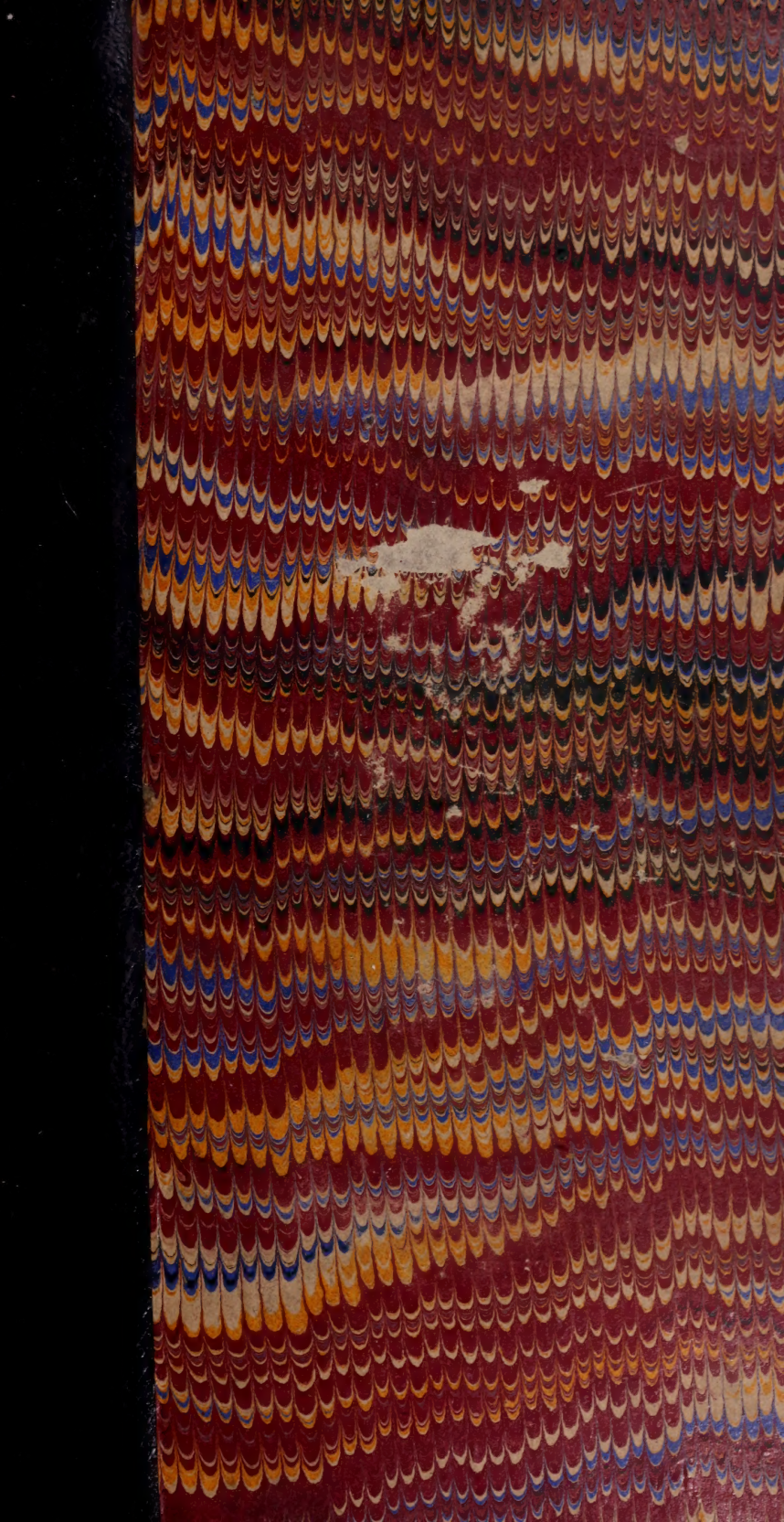

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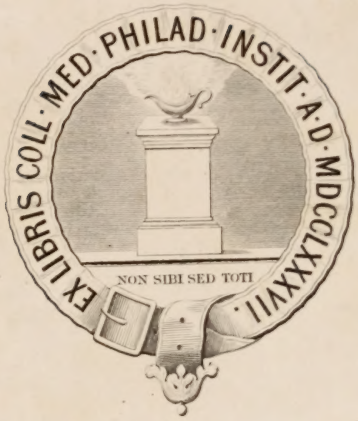
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MEDICAL MONTHLY

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RICHMOND, APRIL, 1878.

Original Communications.

ART. I.—**A Sketch of the Life and Labors of Dr. Robert Battey, of Rome, Ga.** By JOSEPH A. EVE, M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the University of Georgia, Honorary Fellow of the American Gynæcological Society, etc.

In undertaking to give a sketch of the life and labors of Dr. Robert Battey, it is not in compliment to himself, for he needs none, but to present an example for the admiration, imitation, and emulation of the younger members of the medical profession, who may be struggling with adverse fortune, that they may see what genius can accomplish, aided by indefatigable industry and indomitable energy.

Robert Battey was born in Augusta, Ga., November 26th, 1828. He is the son of the late Cephas and Mary Magruder Battey, of the same State. His father dying of yellow fever in the Augusta epidemic of 1839, and his mother soon afterwards, he was left an orphan at the early age of eleven years. He was educated at Andover, Mass., but is not a literary graduate. At school, he was not distinguished by fondness for books, and only acquired it when the practical duties of life called for the knowledge which books impart. He had no office-instructor or preceptor, but purchased works upon chemistry, pharmacy and medicine, as he had need for them, and spent his evenings in diligent study of them, after the labors of the day were over.

In 1846, he was a dry-goods clerk at Detroit, Michigan, for

Zachariah Chandler (who was afterwards in the United States Senate and in the Cabinet of President Grant); in 1847, a drug-clerk at Marshall, Mich.; and in 1848 a drug-clerk at Rome, Ga.

In 1849 he began business as a druggist, on his own account, at Rome.

In 1855 he was a student of analytical chemistry, in the chemical laboratory of Prof. Jas. C. Booth, of Philadelphia. He graduated in pharmacy at the Philadelphia College of Pharmacy in 1856, and in medicine at Jefferson Medical College in 1857; at this time, he also received the diploma of the Obstetrical Institute of Philadelphia.

Dr. Battey entered the practice of medicine at Rome, Ga., where, eight years before as a druggist, he had so gained the confidence of the community that he immediately secured a practice sufficient for the support of his family, which was then of some size. In June, 1858, he operated successfully for vesico-vaginal fistula.

In February, 1859, he devised and practised with success a new method of treating congenital talipes, by the use of a carved splint to confine the foot and leg at once in their proper relations with each other. This method he afterwards extended, in its application, by the aid of tenotomy, to older children (see *Archives of Clinical Surgery*, December, 1876).

Encountering a case of special difficulty in vesico-vaginal fistula in June, 1859, he devised a modification of the methods of Sims and Bozeman, which successfully overcame the obstacles. This method he presented, by invitation, before the Obstetrical Society of London in October, 1859. [See *Transactions of the Obstetrical Society of London*, 1859, also the *London Lancet*, American reprint, March, 1860].

At the meeting of the American Pharmaceutical Association, in Boston, in September, 1859, he presided as vice-president, and immediately after said meeting sailed for Liverpool. Having no introductory letters to gain access to professional men abroad, with much diffidence and misgiving he approached Professor Fleetwood Churchill, of Dublin, who opened his home and his heart to him, and proved a most generous and valuable friend. Professor Churchill presented

Dr. Battey to the leading surgeons and obstetricians of Dublin; and it was through his influence that he was enabled to demonstrate his operation for vesico-vaginal fistula upon a case in the Dublin City Hospital. This case had been five times unsuccessfully operated on by the surgeon in charge (Dr. Thos. E. Beatty) after the methods of Sims and Bozeman, and abandoned as incurable. This opinion of the incurability of the case was concurred in by Professor Churchill and Professor William Pirrie, of Aberdeen, Scotland, who were present, with others, at the operation, which resulted in gratifying success. Upon his leaving Dublin, Professor Churchill gave him a number of introductory letters, addressed to surgeons and obstetricians in Belfast, Glasgow, Edinburgh and London, from whom he received great kindness and courtesy. He was indebted to Sir James Y. Simpson, and Dr. J. Mathews Duncan, of Edinburgh, and to Sir Wm. Ferguson, and Mr. Isaac Baker Brown, of London, for kind personal attention, and especially for placing within his reach valuable professional opportunities. At the Obstetrical Society in London, he met Spencer Wells, who was then just entering upon his brilliant career in ovariotomy. (By a pamphlet recently published, it is shown that Mr. Wells has completed three hundred more cases of ovariotomy, making eight hundred operations in all.) Here also he met Dr. Tyler Smith, who expressed his surprise that the women of America would "allow a mere boy" to do important gynæcological surgery for them. His long experience and high position as an obstetrician had not previously suggested to his mind to perform these operations himself, so much had he been overshadowed by the surgeons of the metropolis. He expressed a determination to try the very next case which offered, and it was but a few years after this interview that he achieved for himself a distinguished record, not only in fistula and perineal operations, but also in the grander field of ovariotomy.

At the dinner tables of Churchill, Beatty, Simpson, Duncan, and Baker Brown, Dr. Battey had the opportunity of meeting, socially, many of the leading professional men of the Irish, Scotch and English capitals.

In November, he went over to Paris, at that time the great

centre of attraction for medical students, under the leadership of Velpeau, Nélaton, Trousseau, Ricord, Jobert de Lamballe, Paul Dubois, Chassaignac, Robert, Maisonneuve, Civialle, and others, where he spent the winter and spring in the hospitals.

Through the courtesy of Dr. Coleman, of Augusta, then residing in Paris, Dr. Battey was introduced to Chassaignac, at whose invitation he demonstrated upon the cadaver, in the Laraboisiere Hospital, his method of treating vesico-vaginal fistula; a similar demonstration he afterwards made in the La Pitie Hospital, upon the invitation of Maisonneuve. M. Chassaignac subsequently presented a paper for him upon this subject, before the Société de Chirurgie of Paris, with expression of his approval and endorsement.

From Paris he went to Brussels for a short period, and returned home in the summer of 1860.

In the spring of 1861, Dr. Battey entered the Confederate army as medical officer of Col. Stovall's Battalion of Artillery. Soon having several offers of higher rank, he chose the 19th Georgia regiment, of which he was commissioned surgeon on its arrival in Virginia.

At the battle of Seven Pines, Dr. Gaillard, chief surgeon of division, having received a wound, which resulted in the loss of his right arm, Surgeon Darby, of South Carolina, was appointed to his position, and Dr. Battey became senior surgeon of Hampton's Brigade. Soon after, Gen. Wade Hampton was transferred to cavalry service; and he became senior surgeon of Archer's Brigade, with which command, as part of "Stonewall" Jackson's Corps, he served through the campaign of 1862. As winter approached, being unfitted for field service in the rigor of the Virginia climate, he was ordered to Atlanta, Ga., and put in charge of Fair Ground Hospital No. 2. In the following summer, the health of his wife being greatly impaired, and his large family without a protector, he was transferred by Surgeon-General Moore to Rome, Ga., and placed in charge of the Polk Hospital.

Early in 1864, the mother of an army officer, a lady of culture and social position, who had been, for twenty-two years, a recluse from society with a large vesico-vaginal fistula, was sent to him for operation. With the assistance of Surgeon

Pim, of the army, the case was treated by his own method of operating, and a prompt cure obtained. The patient occasionally writes to the Doctor since the war, and never fails to express her gratitude for the "miracle wrought upon her," as she persists in terming the cure.

In May, 1864, he was driven out from Rome, leaving his dependent family in the hands of the enemy. He established his hospital first at Atlanta, and afterwards at Vineville, near Macon. When General Hood went back into Tennessee he was removed to Lauderdale, Miss.

In December, 1864, he was returned to Macon, Ga., and re-opened his hospital in the building of the Academy for the Blind, under an order of the Surgeon-General setting it apart for the exclusive treatment of piles, fistula and hernia. Here he established a semi-weekly clinic of operations in this specialty, which attracted many medical men, and promised to become an object of much interest in the army medical service. He was surrendered to the enemy in April, 1865, and returned home and engaged again in practice.

Dr. Battey, in July, 1866, operated for complete false anchylosis of the hip-joint, the limb being immovably fixed in a grotesque and most inconvenient position, entirely disabling the young man for active and useful employment. The next season the patient followed the plow regularly, and recovered a good limb useful in all of its functions.

In May, 1869, he performed his first ovariotomy, near Montgomery, Ala., upon the wife of a physician, removing a dermoid cyst of large size (thirty pounds), which contained hair in great abundance, with bones and teeth. The patient made a good recovery, and is still living in the enjoyment of excellent health. Since then, he has repeated the operation on a number of cases, with about the average success.

In July, 1869, he performed the operation of perineal cystotomy for chronic cystitis; the patient made a good recovery, and the result of the case was most gratifying, and amply justified the operation. This operation was originally proposed by Prof. Willard Parker, of New York, and approved by Prof. Gross, of Philadelphia (see Gross on *Urinary Organs*, 2d ed., page 232), but had never been successfully performed

by either of these distinguished surgeons. Dr. Battey's was the first successful case of the operation published.

In August, 1872, he extirpated the ovaries of a young lady, with the purpose of effecting prematurely the change of life, and thus stopping at once certain vascular and nervous disorders which were imminently threatening life. The operation was entirely original and without precedent, both in its conception and successful execution.

This operation has now been performed fourteen times by Dr. Battey, with two deaths; seven times by Dr. J. Marion Sims, of New York, with one death; once by Prof. Thomas, of New York; once by Prof. Peaslee, of New York; and in a number of instances by other operators in the United States and in Canada. The operation was published to the world in the September, 1872, number of the *Atlanta Medical and Surgical Journal*, republished by other American Journals, and noticed very generally at the time. In April, 1873, he defended the operation successfully before the Medical Association of Georgia, notwithstanding the strong tide of prejudice which had to be encountered from friends as well as foes. He also, in May, 1877, made a triumphant defence of it before the American Gynæcological Society, at its meeting in Boston.

In March, 1873, the original discovery was made by Dr. Battey that water in large quantity could be injected *per anum*, with an ordinary syringe, in the living subject, and carried throughout the entire canal into the stomach and out at the mouth, notwithstanding the ileo-cæcal and pyloric valves, which had been previously supposed to offer insuperable barriers. In September, 1873, this was repeated successfully, in a case of strangulated hernia, which had been reduced *en masse*. The strangulation was overcome, and the enema was freely vomited by the patient. This discovery he demonstrated upon the cadaver in the Atlanta Medical College, in January, 1874, in the presence of the Professor of Anatomy and the college class. It has since been repeatedly practised by himself and by others who have reported cases in the journals.

In 1873, he connected himself with the *Atlanta Medical and*

Surgical Journal, first as corresponding editor, and subsequently as editor-in-chief. In that year, he also accepted a call to the chair of Obstetrics in the Atlanta Medical College, which he filled for two years.

In April, 1874, Dr. Battey performed successfully the operation of vaginal ovariotomy. This operation was devised and once practised successfully, by Prof. T. G. Thomas, of New York; also soon after by Prof. J. T. Gilmore, of Mobile—his being, therefore, the third case on record.

He operated, in December, 1874, successfully on a case of lacerated perineum, involving not only the sphincter muscle, but the larger part of the recto-vaginal septum, and accompanied by chronic diarrhœa consequent upon the lost control. The case was of sixteen years' duration, and the patient greatly worn down by her sufferings. She had passed from hand to hand during this long interval, and everywhere had been pronounced incurable.

In November, 1876, he removed a fibro-cystic growth, weighing four and a half pounds, from the submaxillary and carotid space; and two months subsequently, a precisely similar growth, weighing a pound and a half, from the neck of another man. The results of these two operations were most gratifying.

Through the *American Practitioner* for February, 1877, Dr. Battey introduced to the profession a new uterine escharotic and alterative, under the name of iodized phenol, which has been well received throughout the country, and which we regard as a most important addition to our resources in uterine therapeutics. In the treatment of endometritis, whether cervical or corporeal, we consider the employment of iodized phenol a great improvement, it being superior to nitrate of silver, sulphate of zinc, nitric acid, and all other topical applications. Its strength may be easily varied to meet the requirements of every case. Nitrate of silver has been used very extensively, and often with very happy effects; but sometimes its use is followed by hæmorrhage, and occasionally it causes contraction of the cervix, in some instances amounting to complete occlusion of the os; as in a case, which we were called to see, in which the employment of ni-

trate of silver for cervicitis, during pregnancy, had caused perfect occlusion, necessitating incision at the site of the cicatrix, before delivery could be effected. A similar case is reported in the September, 1876, number of the *Archives de Toxicologie* by Dr. Chambaud (see *Obstetrical Journal of Great Britain and Ireland*, February, 1877), caused by the application of the nitrate of silver to the cervix during gestation, in which also incision was required during labor. Iodized phenol rarely, if ever, causes stenosis or atresia of the cervix, while, owing to its styptic properties, hæmorrhage never follows its use, and the anæsthetic action of the phenol renders its application comparatively painless. It is particularly valuable in cases of metritis or endometritis with menorrhagia or metrorrhagia.

Dr. Battey was elected President of the Georgia Medical Association, at its meeting in April, 1876. He is a member of the Judicial Council of the American Medical Association, and one of the founders and fellows of the American Gynæcological Society.

His contributions to medical literature consist of numerous essays and reports of cases, contributed to the medical journals and societies of this country and Europe.

In December, 1849, he was married to Martha B. Smith, of Rome, Ga., who has borne him fourteen children, nine of whom are yet living. In his labors to advance the science and arts of medicine, he fondly asseverates that the science is indebted not so much to himself as to his good wife, who, by relieving him of all domestic cares and anxieties, as well as by her wise counsel, her loving help and her approving smiles, has constantly stimulated him to his best endeavors.

Homœopathy.—A conscientious pharmacist, says the *Pharmac Centralhalle*, [says *The Clinic*, February 9th], receiving a prescription from a homœopathic physician in Vienna for belladonna, a tenth dilution, dispensed distilled water; but the medicine was sent back with a request to dilute it yet more, as it was still too powerful."

Of the 3,817 medical students registered in Paris in February, 184 were from America.

ART. II.—**Some cases of Traumatic Lesions of the Eye of Unusual Character.** (Read before the Clinical Society of Baltimore, January 4th, 1878.) By SAMUEL THEOBALD, M. D., Surgeon to the Baltimore Charity Eye and Ear Dispensary; Ophthalmic and Aural Surgeon to St. Vincent's Hospital, etc., Baltimore, Md.

The following cases, extracted from the note-books of my private practice, seem to present points of sufficient interest to justify my bringing them to the attention of the members of the Society:

CASE I.—*Foreign Body (Fragment of Glass) Lodged in the Posterior Chamber of the Eye for Five Years and a Half—Slight Inflammatory Reaction Immediately Following its Entrance—Complete Recovery and no Ill Effects Since.*—Mr. W., æt. about 21, came to my office June 5th, 1872. A few minutes previously, while engaged with a companion, Mr. C., in making some chemical experiments, a glass test-tube, containing permanganate of potash and sulphuric acid, and which was held by one of them, exploded—the minute fragments into which the tube was broken flying into the faces of both. Mr. C., who accompanied Mr. W. to my office, *appeared* to have fared the worse, as both of his eyes were well peppered with the fragments of glass—several of which were found embedded in the corneæ—besides being slightly burned with the acid. Mr. W., indeed, was scarcely conscious that his own eyes had been injured; but, as he felt a slight discomfort in one of them, he thought it best that they should be examined.

Upon examining this eye, the left, with oblique illumination, a small penetrating wound was found situated in the upper and outer quadrant of the cornea; and suspended from the inner extremity of this, in the anterior chamber, was discovered a minute fragment of glass. It hung at the lower edge of the pupil, resting at one moment on the iris, and at another upon the lens, as the pupil varied in size. It was of irregular shape, transparent and colorless, and was recognized, beyond doubt, as a piece of glass. A few drops of a solution of atropia were instilled into the eye, and, after an interval of five or six minutes, it was again examined, the pupil having just began to dilate. To my surprise, I found the piece of glass had disappeared. A careful examination showed that it was not in the anterior chamber, and I became convinced, although it could not be discovered there, that it had fallen through the pupil, and had lodged in the posterior

chamber, behind the iris. A solution of atropia, one grain to the ounce, was ordered to be instilled three times a day, and the patient was made aware of the serious nature of the injury. The next day, there being considerable ciliary injection and marked photophobia, a stronger solution of atropia, four grains to the ounce, was ordered to be instilled every three hours; cold water compresses were directed to be applied to the eye, and a brisk cathartic administered. In spite of this treatment, on the following day, the injection of the eye had increased; the ball was sensitive to the touch, and he complained of some pain in it. The artificial leech was applied to the temple, and belladonna fomentations ordered in addition to the atropia. Two days after this (June 10th) the pain had increased in severity; the ball was quite sensitive to the touch; the tension had fallen to $-T_1$; there was a muddiness in the lower portion of the iris, suggestive of commencing iritis, and the vision of this eye was reduced to $\frac{20}{xl}$. Blisters were applied behind the ears, and morphia ordered to be taken if the pain continued. The next day, however, the patient reported that he had not found it necessary to take the morphia, as the pain had entirely disappeared; and from this time, the condition of the eye steadily improved.

June 26th, the eye was carefully examined. The pupil was still slightly dilated by the atropia, which had been discontinued a week previously; there was an entire absence of redness and of photophobia, and the restoration of vision was complete—he having with this eye $V=\frac{20}{xx}$, and being able to read Jaeger No. 1 with facility. With the ophthalmoscope, nothing abnormal could be discovered. Twelve months later, I had an opportunity of making another examination. There was still $V=\frac{20}{xx}$, and the eye presented no evidence of the presence within it of a foreign body. I have seen this patient within the past few months, and have been assured by him that his eyes are as well and strong as ever, and that he is conscious of no difference between the injured eye and its fellow.

The foreign body in this case, though lodged in the ciliary processes, where its presence might be expected to cause most serious consequences, owing doubtless to its innocuous character, produced but a slight amount of inflammatory reaction, which probably resulted in its becoming, in a measure, encysted, and, in my opinion, it will be productive of no further trouble.

The case bearing in some of its features the closest resemblance to this, which I have found recorded, is one described

by Mr. Critchett, in the Royal London Ophthalmic Hospital Reports,* and referred to by Mr. Lawson, in his work on *Injuries of the Eye*,† in which a fragment of glass remained for sixteen years loose in the anterior chamber, producing only, from time to time, slight attacks of inflammation. Its removal having been decided upon, "a broad needle was passed into the anterior chamber close to the ciliary attachment of the iris, and the aqueous humor was allowed to flow out. The minute and transparent particle of glass was not seen, but," Mr. Critchett adds, "it either escaped through the wound, or became entangled in it, as it never occasioned any further inconvenience."

Case II.—*Penetrating Wound of Cornea, wtih Lodgment of an Eyelash in the Anterior Chamber.*—Master N., æt. about 16, was first seen February 5th, 1874. Three days previously, while chopping wood, a chip flew up and struck him with great force in the right eye, causing severe pain, and rendering it for the time being incapable of vision. Upon examination, the lids were found to be somewhat swollen; there was marked conjunctival and sub-conjunctival injections, considerable sensitiveness of the ball, and —T_2. In the inner and lower quadrant of the cornea, there was an irregularly-shaped cicatrix, extending from the margin nearly to the centre of the cornea, its outer extremity being especially broad and jagged. In the anterior chamber, which was very shallow, resting upon and somewhat imbedded in the iris, and lying across the pupil, a slender, dark-colored body was discovered, its upper and thicker extremity reaching to the upper and outer ciliary border of the iris, its lower extremity lying behind the corneal cicatrix. At first glance it was mistaken for a shred of coagulated blood, but upon examination by oblique illumination it had every appearance of being an eyelash, with its root lying uppermost. The lens was ascertained to be in position, but V was reduced to $\frac{1}{00}$. In the other eye, a considerable degree of sympathetic irritation was present.

A four-grain solution of atropia and belladonna fomentations was ordered, in hopes of reducing the inflammation. The next day, the condition of the eye had improved; but as two days later, symptoms of iritis began to manifest themselves, and I became convinced of the correctness of my diag-

*Vol. 1, page 264.
†Page 225, English edition.

nosis in regard to the foreign body, the immediate removal of the eyelash was determined upon. The operation was performed February 8th, the patient being placed under the influence of a mixture of chloroform and ether, equal parts, fluid measured. The aqueous humor having re-accumulated, the anterior chamber was found to be abnormally deep, owing to a slight tendency shown by the wounded cornea to bulge forward. An incision having been made in the cornea, with an iridectomy knife, about half a line from its periphery, and at a point just over the upper extremity of the lash, an endeavor was made to seize and extract it by means of delicate forceps. This apparently simple procedure was found to be more difficult than might be supposed; for, upon the escape of the aqueous humor, the iris, of course, pressed forward in close contact with the cornea, and the lash becoming deeply imbedded in its tissue, it was by no means an easy matter to seize the one, without, at the same time, grasping and injuring the other. After several ineffectual efforts, however, this was accomplished, and the foreign body, which proved to be, as was supposed, a long, stiff eyelash, was successfully extracted, the iris being left uninjured and in good position. The eye now began slowly to improve, and, after a somewhat protracted convalescence, the inflammation finally disappeared, leaving a nearly circular and central pupil, in spite of the existence of an adhesion between the peripheral portions of the iris and the corneal cicatrix. The latter, however, extending as it did, nearly, or quite, to the centre of the cornea, produced an amount of irregular refractions which left the vision of this eye materially impaired; nevertheless, he was eventually able to read with it Jaeger No. 2, and had $V=\frac{20}{xx}$. About one year ago, the injured eye became again slightly inflamed, but the inflammation soon subsided under the influence of atropia.

Such accidents as this are of extremely rare occurrence, though mentioned in works upon ophthalmic surgery. The eyelash, evidently, was torn out by the chip of wood, and carried by it into the anterior chamber, where it was discovered. Had it not been removed, its presence would, in all probability, have caused a destructive inflammation of the organ, which would have placed the safety of the other eye in jeopardy.

The following case is one of several, of similar character, which I have met with:

CASE III.—*Foreign Body (Hull of a Minute Seed) Fastened upon the Cornea for Three Months, where its Presence had been Overlooked, and the Consequent Inflammation Treated by the Application of Caustics.* G. C., mate of an Italian ship which had recently come into port, called June 21st, 1875, to consult me regarding an inflammation in one of his eyes, which had existed for at least three months. The eye was found to be much injected, and upon the cornea, at some little distance from its limbus, was discovered an elevation of brownish-yellow color and oval shape, surrounded by a narrow zone of opaque cornea and a number of newly-formed blood-vessels. He had suffered a good deal of irritation and some pain in the eye, which symptoms still persisted, in spite of the free applications—according to the patient's report—of caustics to the inflamed organ by the physician under whose care he had previously been.

There was no history of a foreign body having entered the eye; nevertheless, having met with similar cases, I suspected that the elevation described was, in fact, a foreign body attached to the cornea. Acting in accordance with this belief, I attempted its removal, and, by means of a delicate gouge devised especially for the removal of foreign bodies from the eye, succeeded without difficulty in detaching what proved to be, a portion of the hull of some minute seed. Presenting a concave surface to the cornea, it had been aided by atmospheric pressure in retaining its hold, while, owing to its peculiar nature, it had completely resisted the solvent powers of the fluids with which it had come in contact, for a period of three months. A superficial ulceration of the cornea had occurred beneath it—this being nature's usually successful means of getting rid of such offending bodies. A watery solution of opium was ordered to be applied on a cloth to the lids, and he was directed to report in a few days if the eye was not well. As he was not again heard from, the presumption is that he required no further attention.

I have thought it worth while to report this case, because it illustrates very forcibly the importance of careful diagnosis in the treatment of eye affections, and because, moreover, although I have met with several such cases, I do not remember to have seen a published description of a similar one. Quite recently I removed from the eye of a little child a foreign body of a similar character, which had remained adherent to the cornea for two weeks.

CASE IV.—*Extrusion of the Lens and Capsule by an Acci-*

dental Blow with the Finger Nail.—Mr. T., of Liverpool, England, while stopping at the Rennert House in this city in August last, was sparring with a companion, when he suddenly received an accidental blow from the end of one of his fingers, as he supposed, in the left eye. Water was observed to spurt from the eye at the instant, and for a time he felt a good deal of pain in it. However, he regarded the accident as a trivial one, and on the following day, or the next day but one, rode between Baltimore and Wilmington on the locomotive of a railway train, in order that he might have a good opportunity of viewing the country along the line of the road. As might be supposed, the condition of the eye was not improved by this venture; and when he called to see me, on the 23d of August, four days after the receipt of the injury, which had occurred on the 19th, the eye was considerably injected, although there was, even then, no pain, and but slight photophobia.

The examination then instituted revealed a condition of things as follows: At the upper margin of the cornea there is a linear wound, similar in shape and position to that usually made for an upward iridectomy, and about five or six mms. in length. Through this, the corresponding segment of iris protrudes slightly, closing the wound, so that the aqueous humor is retained; T_n; no tenderness of ball; and, as stated above, considerable injections, though but slight photophobia. The pupil, owing to the partial prolapse of the iris, looks much as if an upward iridectomy had been performed. Upon examining further, with oblique illumination, and with the ophthalmoscope, to my surprise, I find an absence of the lens. Upon the anterior surface of the vitreous humor, just behind the pupil, are several shreds of coagulated blood; but, neither in the vitreous chamber nor elsewhere, are there to be discovered any traces either of the lens or of its capsule.

The correctness of the diagnosis of "absence of the lens" was confirmed, when, upon testing the sight of this eye, it was found, with $+\frac{1}{3}$ (cataract glass), to have $V=\frac{2}{1xx}\frac{0}{0}$. And that the lens escaped in its capsule, without rupture of the same, is rendered probable, not only by the absence of any remnants of the capsule, but also of any traces of the lens substance. The patient had never had syphilis, or any disease of his eyes. He stated, however, that the left eye had not been as strong as the right; that he had been liable to "take cold in it" at times; and that it had been said to be smaller than the other one. He also mentioned that several other members of his family had had similar defective left

eyes. From which it would appear that there was a delicacy about the structure of the organ, which rendered it peculiarly liable to serious consequences from an accident such as befell it.

A watery solution of opium having been ordered, the patient was directed to apply this frequently on a linen cloth, and to keep the lids constantly closed by a bandage and compress. Two days later, the injection of the ball having become greater, and the tension being above normal, the prolapse of the iris was found to have increased, and the lower margin of the pupil to be drawn somewhat upwards. The prolapse was punctured with a needle, but was not diminished thereby. Atropia having been instilled, and found to act well, a four-grain solution was ordered to be applied to the eye four times a day. Two days after this (27th), the hernia of the iris had increased considerably in size, and presented a bladder-like appearance. Under these circumstances, its abscision was determined upon, and, with the aid of a pair of forceps and curved scissors, it was cut off close to the lips of the wound. Belladonna fomentation, together with a compress bandage, were ordered to be applied.

August 29th, the eye was again examined. There had been no pain of moment since the operation; the redness and photophobia were less; there was T_n; and, with $+\frac{1}{3}$, $V=\frac{20}{cc}$. The wound had closed, and the iris still showed a slight tendency to protrude; nevertheless, the pupil was drawn but very little above its normal level. Atropia was found, upon instillation, to be well received, and he was directed to resume its application, and to continue the compress and the belladonna. He was to have reported again in a few days, but, as he had business out of the city which he was anxious to attend to, I presume he left town shortly after his last visit to me, as he was not seen again.

Cases of extrusion of the lens, in connection with wounds of the eye-ball, are not of very infrequent occurrence, but in some of its features this one is, I believe, unique.

Room for First-Class Physicians.—We do not believe that there is a town in America without all the doctors it can support, and the far West has its full proportion. A first-class physician will get a good practice and make money in any locality, and the road is open for all doctors to become first-class.

ART. III.—**Exaggerated Case of Purpura Hæmorrhagica of Twelve Months Standing, Cured by Mercury.** By JOHN HERBERT CLAIBORNE, M. D., President of the Medical Society of Virginia; Author of "*Clinical Reports from Private Practice*," etc. Petersburg, Va.

Mrs. Blank, æt. 34 years, mother of three children, youngest six years of age. She says that she has been suffering from purpura hæmorrhagica for twelve months; that it came on her suddenly after some slight indisposition—at first appearing on the lower limbs. Now, her legs, arms, and the greater portion of her body are covered with spots of extravasated blood from the size of a lentil to that of a ten cent piece. There are no spots on the neck or face. She has emaciated but little, she says; weighs now some 150 pounds; has good complexion, rather florid than otherwise, but her muscular weakness is excessive, and she walks across the floor with the greatest difficulty. She is unable to go out at all, or to attend to any of her domestic duties. Has poor appetite, feeble digestion, and is very much annoyed with flatulence. Her bowels are irregular—disposed to constipation. The tongue is clean, and the mucous membrane of the digestive tract shows no evidence of being in any way affected by the disease. The kidneys are also healthy, and the uterine functions normal and regular. Her spirits are depressed to a degree which amounts almost to melancholy, and she expresses no hope of recovery. She has been treated by some half dozen physicians—some of eminence. All have agreed that the trouble was in the blood crasis and have, without exception, exhibited iron, and put her on full diet. Spent some two months with the late Dr. J. P. Mettauer, who also gave her iron, but used powerful astringent washes to the cuticle. On the supposition that the disease was one of indigestion, perhaps, she was ordered to go to the Alleghany Springs, of this State, whose waters are famed as an alterative stomachic, but in no instance has treatment of any sort been of any avail. I immediately placed her on the following prescription:

℞. Hydrag. oxymuriat.....grs. ij.
Ext. cinchonæ.....grs. xxiv.

M. Make pills, No. xxiv. S: One pill *ter die* after eating. Diet, liberal and nutritious, but unstimulating.

In one week's time the maculæ began to fade, and in one month had entirely disappeared. In the meantime, the patient's strength had improved; her general health was almost restored, and she was enabled to attend to her ordinary duties. She has been well for some eighteen months, and though she

has occasionally seen some evidence of a return of the purpura, it invariably and immediately retires before the use of her pills for a few days. There has never been the slightest ptyalism, though, on commencing the use of the pills, she took them for one month without suspending them for a day.

Mercury undoubtedly acted in this case both as *alterative* and *tonic*. That it has a tonic action in certain pathological conditions of the system, I am sure. Fournier has called attention to this fact. Liegois has also remarked of it recently in some of his experiments, that "persons taking it, increased their weight," thus proving, that in some way, it acted as a stimulant or filip to the nutritive function. Wilbouchewitch, too, of Paris, by means of the hæmatamètre counted daily the red corpuscles of persons under mercurial treatment, and found that they increased in number under the administration of that drug.

I was not led to try the use of mercury in this case, however, by any theoretical views, or on the report of the above distinguished authorities. The treatment *secundem artem recentem* had evidently failed, and I remembered that an old practitioner of physic—a man of great experience and great good sense—the late Dr. James May, had told me that he had several times succeeded in curing obstinate cases of purpura by the exhibition of mercury. He had no theory on the subject.

30 *Union Street.*

ART. IV.—**The Ipecacuanha Treatment of Dysentery.** By ALFRED A. WOODHULL, M. D., Surgeon U. S. Army, Alcatraz, Cal.

The opening sentence of a selected article in the *Medical Monthly* for November, 1877 (p. 596), "Such mild cases [of dysentery] as may be relieved by a full dose of castor oil and oil of turpentine, or a full dose of ipecacuanha," &c., illustrates the common belief that the ipecacuanha treatment of dysentery is a somewhat rough, or at least an evacuant method of overcoming only the less serious forms of that disease.

For the last twenty years, the doctrine that ipecacuanha will control dysentery, almost as a specific, has gradually spread; but many yet fail cordially to receive it as sound.

There are two popular errors on the subject: first, and most important, that grave cases are beyond its power; secondly, that large doses of ipecacuanha are necessarily emetic. On both points, the truth is directly the reverse.

The most brilliant successes of ipecacuanha have been in the worst forms of the disease. It acquired its first European reputation as much from the severity of the Dauphin's illness as from the illustrious rank of the patient. In Balmain's first case, eighty years ago, it was used as a last and apparently hopeless resort when the patient seemed at death's door, and with immediate relief. Mr. Docker, to whom its modern re-instatement is due, first used it because his cases were uncontrollable by the ordinary measures. And the issue in fifty-three consecutive instances justified him in announcing, that: "In all constitutions, robust as well as delicate, under all circumstances, the result is the same. In the very worst cases, when the strength of the patient is almost exhausted, after the whole range of remedies has been tried in vain, the disease running its course swiftly and surely to a fatal issue, ninety grains of ipecacuanha have been given, and forthwith the symptoms have entirely changed—the disease itself being literally cured." In the single fatal case of this series of fifty-three, the man had been ill three weeks without treatment, and "the evacuations, which were excessively frequent, consisted entirely of sanies and large coagula of pure blood without a particle of feculent matter. The man, in short, appeared to be in a dying state." He took two ounces of ipecacuanha within four days, when the stools became perfectly natural, and remained without a trace of blood or mucus. Death occurred two days later from abscesses involving nearly the whole liver, and thus was afforded the only autopsy after using this drug. It was then shown "how prompt had been the action of the medicine in the complete cessation of ulcerative, and substitution of reparative action. The lining membrane of the large intestine in its entire course was covered with recent ulcers of enormous size—in some places, indeed, so large as to occupy the circumference of the gut. The whole had begun to cicatrize; their edges were even, surface smooth, and covered with a fine epithelium; all thickening of the

coats had disappeared. The bowel contained natural semi-fluid fæces; no vestige of mucus, pus or blood."

East Indian experience has steadily confirmed that just summarized; and no one can pretend that the tropical disease is mild, self-limited, or has an inherent tendency to recovery, or that the American dysentery is severer than that of Asia. It is on record that in all parts of the United States, similar treatment is followed by results similar to those reached in India; but fears, born of the old depressant and emetic theory, paralyze too many when ipecac should be prescribed.

The object of the writer, who has corroborative personal experience to support him, is to beg those who have not done so to faithfully try, be the case never so severe, this most reliable remedy. From twenty to forty grains, as the gravity of the case may determine, with half as many minims of laudanum, given on an empty stomach, generally will be retained, if recumbent rest and abstinence for four or five hours be enforced. A mild epigastric counter-irritant is an adjuvant; but neither this nor the laudanum is always necessary. A few writers say that vomiting always follows, and some think it desirable. I believe that it is never useful (in dysentery) and can generally be avoided. So much treatment is influenced by our hypotheses of the action of drugs and the nature of disease, that we are often deterred by imaginary dangers from following our desire.

When once the ideas are fairly grasped that ipecac is a stimulant of marked power over the organic nerve, and that the essence of dysentery is nervous prostration, in the same sense that other forms of malarial poisoning are, the way is clear to employ in that disease, freely and without misgiving, the one remedy by which it is perfectly controlled.

Scorbutic dysentery requires anti-scorbutic treatment; and a good deal of impure ipecacuanha, adulterated with other emetic drugs, is in the market. With these two facts in mind, one may as confidently attack dysentery with ipecacuanha, administered non-emetically, as he would give quinine in an ordinary intermittent.

ART. V.—**Medical Department of the Confederate Government, and some Advances made by Confederate Surgeons.** (An Extract from an Address recently delivered before the Medical Society of the District of Columbia). By A. Y. P. GARNETT, M. D., Washington, D. C.

Before dismissing this division of my address, I desire, gentlemen, to add a brief tribute to the achievements of our brethren, who constituted the Medical Department of the Confederate Government, during the recent unhappy war between the Northern and Southern sections of the United States. I say brief, because unfortunately for such a history, nearly all of the records embracing valuable statistics, were destroyed at the closing scene of that bloody drama. I am compelled, therefore, to rely upon my own observation at the time, aided by a few notes which have been kindly furnished to me by Ex-Surgeon General S. P. Moore, and one or two others.

When that distinguished officer and accomplished gentleman, Surgeon-General Moore, was placed at the head of the Medical Department, he found but the beginning of an organization in operation. A medical corps had to be organized and disciplined for vast armies already in the field; the central and supervising department had to be arranged and systematised for active service. Some conception of the vastness and difficulty of such an undertaking may be formed, when you are reminded that there really existed no regular Medical Department, as a basis upon which to erect this gigantic superstructure. Unlike a regular organized government with all its machinery in full operation, there was simply chaos which required a vigorous intellect, great executive ability, and unwavering resolution to call forth order and harmony.

The plan was adopted of having general hospitals with detached buildings, each one having full accommodations for forty or fifty patients, and, in this way, there was a provision for the enlargement of a general hospital as occasion required. Some of these hospitals, on the suburbs of Richmond, were extended to the capacity of containing ten thousand patients.

The advantage of this system, is now, I believe, universally

acknowledged, as affording the important facility of isolating patients affected with contagious diseases. An infected building could be thus vacated, and, if necessary, destroyed. This method was adopted especially in buildings where hospital gangrene and erysipelas were found, with great advantage to the affected, and security to others. Army and medical boards, consisting of capable, and in many instances, distinguished members of the profession, were instituted, in order to give to the Department well informed and skilful medical officers, for the performance of such responsible duties.

Medicines and medical supplies being contraband of war, medical purveyors were instructed to have prepared extracts and tinctures from indigenous plants. These officers were especially complimented for the great proficiency to which they attained in this department, the supply not only exhibiting elegant and beautiful preparations, but embracing a large number of native medicinal plants which had never before been in use. Three or four extensive laboratories were in successful operation before the close of the war, the products of which would do credit to any similar establishment at present in the largest cities of the North.

Dr. Porcher, of South Carolina, was detailed to prepare a work on the medical resources of the South, which was executed with great credit both to himself and the Bureau. The book was published by the Bureau of Medicine, but I regret my inability to obtain a copy of it.

In addition to the distillation of all of the whiskey used by the Bureau, under the direction of the Surgeon-General, a botanical garden was planned, which was in full operation at the close of the war, superintended by a competent medical officer.

Besides other products there cultivated, large quantities of opium were produced for the use of the Medical Department.

In the administration of chloroform, which was the only anæsthetic resorted to, by a general order from the Bureau, surgeons were directed to precede its use with stimulants; and although it was the universal practice, both on the field and in the hospitals to employ this agent, I have not been able to find that a single case of death from its use was ever

reported. Having two hospitals under my immediate charge, an opportunity was afforded me for daily observing the effects of this anæsthetic, and I do not hesitate to testify to its use having been followed in every instance by the happiest results.

In the treatment of gun-shot wounds, with fracture of the lower extremities, Smith's anterior splint was generally used, except in cases of extensive comminution, and then the pulley and weight, accompanied with constant irrigation, were employed.

The hypodermic use of the vegetable alkaloids was also in general use. Under the direction of the Bureau, a book on operative surgery was prepared and published. A medical society, consisting of army and navy surgeons, was organized in Richmond. A medical journal was established, having as sole contributors the medical staff of the army, the contents of which will bear favorable comparison with any of its contemporaries of the North.

When we consider that all these enterprises were in successful operation in a beleaguered city, cut off from all communication from the outside world by blockading squadrons, and almost encircled by a hostile army, whose morning reveille was plainly audible to its inhabitants, you will doubtless acknowledge, with amazement, the importance of such results as we have stated, as the fruit of a compact organization and systematized effort; while you cannot fail to appreciate and admire the heroism, fidelity and devotion to duty which inspired such conduct.

In addition to the foregoing, it is important that I should mention, that skilled surgeons were selected to practise operations in resection of joints, a procedure hitherto followed by results of doubtful utility. Others were designated to prepare special treatises upon the effects of wounds of nerves, and different methods of treating contracted joints.

Among these, whose restless and speculative genius was ever seeking to deal with the great truths which lie hidden within the grand Arcana of medical science, I must not omit to mention my friend and former colleague, Dr. Henry F. Campbell, of Augusta, Georgia. I refer to this distinguished

gentleman, for the purpose of establishing before you, his claims to the merit of having first suggested the idea of ligating large arteries of the extremities, for the arrest of gangrene and cure of traumatic inflammation; and to testify to his having successfully operated with this view in the city of Richmond, Virginia, June, 1862.

This subject has been recently taken up by a Mr. C. F. Maunder, of the London Hospital, and an evident attempt made to detract from Dr. Campbell's claims to originality in devising and practising this surgical procedure. In the last edition of Cooper's *Surgical Dictionary*—the most reliable and authoritative surgical work in the English language—I find, however, that no less a distinguished writer than Prof. Robert Druitt, of London, in his article on "Inflammation," gives full credit to Dr. Campbell, for having originated this practice, and attributes to him the merit of having first demonstrated, by successful practice, the important results of his discovery. I will here take the liberty of quoting that portion of Professor Druitt's article which refers to this subject.

"*Ligature of Arteries for Relief of Inflammation.*—During the great civil war in America, 1862, the distinguished Professor of Anatomy, in the New Orleans Medical School, devised a method of preventing destructive inflammation of the extremities by tying the main artery of the limb. This has been since practised both in England and on the Continent with considerable success. Used at first by Professor Campbell only in those severe cases of gun-shot wounds, in which the successful double ligature on Guthrie's plan, at the seat of injury was hardly possible, this Hunterian operation was found to exercise so beneficial an effect upon the wound, in arresting or greatly diminishing the subsequent inflammation, that it was employed in other severe traumatic inflammation and with the best results. After the battle of Seven Pines (May 31st, 1862), many of the wounded in the General Hospital at Richmond, Virginia (to which institution Dr. Campbell was consulting surgeon), suffered from the most violent and uncontrollable inflammation.

"Gun-shot wounds of both the upper and lower extremities resisted all ordinary measures of treatment. In his *Manual of Military Surgery*, Dr. Campbell tells us: 'Suppuration in many cases had ceased, and in its place a bloody water was discharged from the openings and abrasions. Ligation was

determined on (in three cases of arterial lesion with secondary hæmorrhage). The extreme swelling and inflammation of the limb, extending even above the knee in all, and in one marked by large patches of incipient gangrene on the foot, presented great embarrassment to the operation at the seat of lesion.'

"It was not the difficulties, however, which caused Mr. Hunter's operation to be preferred in all of these cases to Mr. Guthrie's, notwithstanding the risk of recurrent hæmorrhage. The idea pursued in departing from the rule was no less than the experimental effort to cure the inflammation in the limb, by cutting off its arterial supply by ligation of the main trunk which supported the inflammation. The femoral artery was tied in each case near the apex of Scarpa's triangle. The hæmorrhage ceased immediately in all three of the cases; the swelling began to decline within twelve hours, and in three or four days the limbs were reduced to very nearly their original size, the discharge having changed from bloody water to healthy pus. In one of these cases, the supervention of recurrent hæmorrhage, and the consequent great exhaustion of the patient rendered amputation above the knee necessary. In this operation, only one artery, superficial and of small size, required tying in the stump. The stump healed by first intention—a most unusual result of a secondary hæmorrhage.

"It is not unfair to presume that the previous ligation favored this rapid recovery of the stump. Dr. A. C. Thom, of the Confederate States Army, forwarded to Dr. Campbell the notes of a similar case under his own care, in which the beneficial effects of Hunterian ligation of the femoral for destructive inflammation were markedly exhibited—the inflammation being relieved as by magic.

"Dr. Campbell sums up the deductions to be drawn from his experience in the following vigorous sentences:

"Lastly, whether the principal be adjudicated as a new one, or simply as the revival of an old one, long lost and unjustly neglected, we derive as a practical deduction from our cases, corroborated and confirmed by subsequent cases of others, herein mentioned, the ever safe conservative precept, that no hand, wrist, forearm or elbow; no foot, ankle, leg or knee, should ever be amputated for excessive destructive inflammation—especially those cases resulting from traumatic causes—without resorting, whenever the state of the patient will admit of it, to a previous experimental ligation of the artery supplying the affected region. In extremities already condemned to amputation, if time be allowed, the procedure can

certainly do no harm; on the other hand, it will often save a useful limb, or at least contribute to the more rapid healing of the stump."*

Acting on the same principle, M. Nélaton and Signor Vanzetti have practised compression of the *main artery of the limb* for inflammation of the extremities, and with singularly favorable results.

Many other original suggestions in the treatment of disease and the management of surgical cases, might here be enumerated, together with acts of personal heroism and daring, reflecting honor upon the medical officers of the Confederate Army; but I spare you the tedium of such details, and will close this reference to the achievements of our Confederate brethren—*quorum pars fui*, I am at all times proud to proclaim—by alluding to an incident, one of many, which served to illustrate the coolness, courage and self-devotion, under a sense of duty, exhibited by a medical officer upon the field of battle.

At the battle of Seven Pines, the distinguished Editor of the *Richmond and Louisville Medical Journal*, Professor E. S. Gaillard, then acting as Medical Director of one-half of the Army of Virginia, in the midst of a heavy and destructive fire from the Federal forces, was called upon to operate upon General Hampton. He had scarcely finished the operation when his horse was shot, and his right arm so shattered by a ball, as to require amputation. Some idea may be conceived of the perilous situation under which this surgeon was performing his duty, when you are informed that forty-eight hundred men on the Confederate side were killed and wounded in the brief space of four hours.

These, gentlemen, are some of the fruits of our organization and the teachings of our grand old school. We cheerfully face danger on the battle field, and walk fearlessly midst death and pestilence in the execution of our duty.

Thus acknowledging the vital importance of organization, it is imperative upon us to keep the standard firmly resting upon the most elevated moral plane. The practice or rather

*See Cooper's *Surgical Dictionary*. Last London Edition, 1872. Article—*Inflammation*, by Dr. Robert Druitt.

the abuse into which we have fallen of admitting practitioners to our body, without proper training and a rigid examination, after a thorough course of study, is not only a wrong to society, and an injury to the parties themselves, but an outrage upon the community. It is simply training ignorance to learn imperfectly through practice that which should be acquired through study; and while we thus degrade our standards and insist in imposing upon the public, we inflict an injury upon our material interests. I say this with some earnestness, for here, at the National Capital, the abuse is especially enhanced by a social feature which exists nowhere else. Young men of limited educations, who find themselves caught in the toils of a government, where they are overworked and underpaid, struggle to escape through the professions; and with little study and less training, secure diplomas that enable them to acquire, in some degree, through practice, that which they should have been taught in the schools and the hospitals, under competent professors. We cannot ask the world to respect us unless we respect ourselves as a scientific body; or to give support to a profession, which we may, with apparent justice, be said, practically, to degrade.

From the same point of view, gentlemen, how important it is, that we guard with jealous care, the ethics of our organization. So far, I am proud to say, these have been of the highest and purest; no body of men have more deservedly received the confidence and support of all the public. In this I do not even except the clergy or our learned brethren of the law.

The relation existing between the physician and the family is one of the most delicate and confidential sort. He is taken into the household at a moment when all of the ordinary guards are thrown aside, and if he be not a man of honor, the abuse that may follow would be shameful indeed. It is with feelings of exultation that I point through the ages to all parts of the earth where our noble profession is known, to its high and untarnished character in this respect. The physician takes rank with the clergy and the attorney in protecting the delicate and confidential relations of the family.

In conclusion, permit me to add, that it is upon the outer

walls of prevention that the medical science throws its banner of defiance; and when we shall have shut off disease from inheritance, disease from the neglect of sanitary precautions, disease from abuse—we may turn our attention to disease the *inevitable*, and so end, where ignorance, fanaticism and pretension begin.

It is a proud position to be even an humble member of this grand profession; and, as such, I join my voice in its praise, and devote my efforts to a labor that makes us worthy of our past, proud of our present, and hopeful, under the providence of God, for our future.

Clinical Reports.

Fæcal Obstruction of the Bowels, Relieved by Morphia. By JOHN M. THOMPSON, M. D., Silver street, S. C.

I report the following case, not on account of its rare occurrence, but to show the effects of the plan of treatment adopted, as it is contrary to the course frequently pursued:

A colored man, about 25 years of age, had complained a day or two of constipation and pain in the bowels. He made application to his employer for some medicine, who gave him a full dose of calomel at night, followed with oil the next morning. His bowels failing to move after this, and as he was still complaining of great pain, I was sent for.

Upon examination, I found the pulse good, but slightly accelerated; tongue coated heavily; countenance depicted great anxiety; great despondency of spirits, with paroxysms of severe pain in the bowels. There was very little distension of the abdominal walls, but a distinct tumor could be felt at the ileo-cæcal valve, which was tender on pressure. To clearly diagnose the nature of the obstruction was difficult, though it was extremely probable that it was an accumulation of indurated fæcal matter, as there had been no vomiting, which is an early symptom of intussusception. Upon this conviction, I gave him two compound cathartic pills (U. S. P.) with directions that after two hours he should take one more, to be followed in an hour by another. Enemata to be used at frequent intervals during the day; poultices to be applied to the abdomen, and milk diet was ordered.

The next day, I found the patient in the same condition as I had left him. He had passed a restless night; bowels still unmoved and painful, and there was increased despondency. The tumor in the ileo-cæcal region could still be felt, though there was no increase in the distension or tympanites. I now gave him one drop of croton oil, which, failing to act after an hour, I gave him another drop, followed by an enema; shortly after this he passed several small lumps of very hard, offensive fæcal matter. I thought now that the obstruction had been removed, and that the patient would make a good recovery; but I ordered the clysters to be repeated, if necessary, with an opiate in case his bowels should become too active. The patient expressed himself as feeling a great deal better, and I thought he would get well without any more medicine.

Next morning I was sent for again. On my arrival, I found that the bowels had not acted any more after I left him yesterday. The patient was in great pain, and had nausea. The tumor was still perceptible, though not so large or tender; pulse still good; had vomited something of a stercoraceous nature, I was informed.

Before entertaining the idea of an operation, I determined to try a different course of treatment, for the patient was not yet in a desperate condition. Accordingly, I administered sulph. morphia ½ gr. hypodermically, which soon put him into a tranquil sleep. I left the following powder to be given every six hours: R Pulv. opii., grs. ij; Hydrarg. chlorid. mit., gr. j, with enemata every four hours. The next morning I found him decidedly better; bowels had operated a little several times, and he was able to be up. The tumor had disappeared, he felt comfortable, and had eaten some breakfast.

The obstruction was clearly of a fæcal nature, and I think it had caused spasm of the bowels; for had not this complication been present, the active cathartics used, particularly croton oil, would have removed the trouble. In confirmation of this idea, it will be noticed that as soon as opium was used, the bowels were relaxed and the obstruction removed. It has almost become an established rule of practice to *avoid* powerful cathartics in any obstruction, though it is often tempting to resort to them in a case of this kind. When we meet with one that resists the simpler cathartics, the safer plan I deem is, to adopt the opiate treatment, and thereby give the bowels time to regain their tone, and give comfort to the patient.

Case of Priapism Cured by Dilatation of Urethra. By L. H. A. NICKERSON, M. D., Quincy, Ill.

A singular case came under my notice during the first part of last January. A young man, of twenty-five years, contracted a chancroid a year ago, which ulceration was of a superficial character, attacking the glans, and extending down to the meatus, and probably within the urethra. The ulceration healed rapidly, but he still labored under the impression that he was the subject of syphilis. He fell into the hands of a "quack," who, vulture like, took all of his funds, and, by exaggerating the case to such an extent, that when he came under my care, he was on the verge of insanity. He stated that for the past two or three weeks, an erection of the penis occurred every night, which was very annoying, as it did not feel normal, but very queer—there being no pain or secretion (except at times a seminal emission). I should state he never had an attack of gonorrhœa.

On examination, the penis was normal, to all appearances, with the exception of a herpetic eruption at the base of the glans. I ordered a wash of alum and water, and a pill containing one grain of opium and three of camphor, which was taken for three nights without any effect.

On the fourth day, I explored the urethra with a bulbous bougie, and just within the meatus there was slight constriction, back of which there seemed to be ulceration. I told the patient that he was well, and would neither lose life nor penis, and that he never had syphilis; this allayed his apprehensions.

The constriction was dilated by passing solid bougies every third day for two weeks. He has not had an erection since the first introduction of the bougie, and says now that he feels perfectly well.

Jaborandi for Anasarca. By D. W. FOSTER, M. D., Ville Platte, Louisiana.

Some ten days ago, I was sent for in a hurry to visit a very poor woman, ten or twelve miles distant, who had been brought to my office a few days previously with extreme anasarca, remittent fever of several months' standing, and almost exsanguineous, to whom I had given quinine, vegetable alterative aperients (never gave mercury) and solution of nitro-muriate of iron; but I could not go to see her. The messen-

ger told me she had no fever, but the anasarca was worse, that suffocation was imminent, and that she was spitting blood. I ought to state that the day she was brought to my office was very inclement, and she was miserably clad.

I gave the messenger who came for me an ounce of fluid extract of jaborandi, and told him to hurry back and give a teaspoonful every hour until the perspiration and saliva should flow freely.

I had supposed she was dead, until yesterday her husband came and told me she was doing well, except apthous mouth and diarrhœa, for which he wanted more medicine; the anasarca had all disappeared, except some œdema of the feet and ankles. He said the fourth dose caused profuse secretions, and relieved the breathing and arrested the hemoptysis very promptly; but he continued the jaborandi till he had given all. I have no idea that any other known remedy could have reached the disease in time to have saved life. But the question still is, Did the excessive continuance of the jaborandi cure the irritation of the alimentary mucous membrane?

Correspondence.

Quinine as an Oxytocic.

Mr. Editor,—I have read from your journal what I conceive to be a very interesting paper on "Quinine as an Oxytocic," by Dr. Lewis, of Lenoir, Tennessee. As my attention, in a few instances, has been attracted to the possibility of the agent having some specific action in that direction, I have taken a little pains to inquire and satisfy my mind as to the true theory of such a phenomenon.

My experience teaches me that, *almost universally*, pregnant women can take quinine with as much impunity as those who are not in that condition. When it has been my privilege to observe a tendency of the drug to develop any uterine affinity, I have attributed such effects to individual peculiarity and idiosyncrasy, which would equally preclude its use, were the same subject in a non-gravid state.

Every practitioner of medicine will occasionally find in his practice, persons who cannot take this or that drug without some special inconvenience or intolerance—particularly so as

regards quinine and sulphate of morphia. When we notice these instances of exceptions, as regards the action of these two medicines, the patient generally suffers *cerebral disturbance* more than otherwise. But, occasionally we meet with individuals, who, instead of the brain becoming disturbed, the stomach, and sometimes the bowels, evince their revolt, and assume anomalous conditions as incident to the grade and degree of an *isolated and distinct predisposition*. Indeed, the whole abdominal viscera seem to partake, under such circumstances, of abnormal functions, and prove the inexplicable fact of the exception of some to the general rule of physiological science.

I do not recollect, however, to have noticed a case where quinine produced any specific impression upon the kidneys to the exclusion of other organs, and have only in a few instances known the uterus to respond when no other organ seemed to be implicated. And when I thought I could perceive any direct oxytocic action, other organs being involved, I was ready to attribute such action to *continuity of position;* that, from idiosyncrasy, the irritation extended along the lower bowels, just as is the case when aloes, or any other active purgative, has been administered.

In brief, I have been engaged in the practice of medicine now verging upon twenty years, and having lived in a moderately malarial district where quinine is the accepted specific for malarial poison, in all my professional experience I have never found a necessity to discriminate between a woman *enciente*, and one free of such incumbrance, unless some previously-known idiosyncrasy prevented me.

E. C. Barrett, M. D.

Jerusalem, Va., March 6th, 1878.

Household Prescription for Dropsy.

Mr. Editor,—Several years ago there resided in —— county, Georgia, quite a skilful physician, who had a brother who was in possession of a secret prescription that he claimed would cure dropsy in the worst forms. When cases of dropsy came to the physician for treatment, he at once sent

them to his brother, who, it is said, in nearly every case, relieved the dropsy at once. He claimed to have learned the remedy under promise of keeping the same secret. Just before his death, however, he wrote it out and gave it to a very intimate friend. I came into possession of his recipe last year, and treated two cases—one of *anasarca*, the other *ascites;* both recovered rapidly. If there was nothing else to recommend it, its simpleness and cheapness would claim attention. I here give it to you as I received it, *verbatim et literatim:*

℞ Steel dust	3	tablespoonsful.
Grape vine ashes	2	"
Powdered chamomile flowers	4	"
Powdered sassafras bark	3	"
Powdered dogwood bark	3	"
Sulphate quinia	grs. xx.	
Best vinegar	1	pint.

Mix well, stirring for several minutes over a slow fire. Add half a pint molasses, and continue to stew over the fire. Take off the fire and continue to stir. Place on the fire and stew again three-quarters of an hour. Take off, cool, and filter.

At first, give a hydragogue cathartic of bitartrate of potash and jalap. Follow this by teaspoonful doses of the prescription in sassafras tea before each meal. Diet confined to bread (corn) and molasses.

Trusting this prescription may be used by your readers as successfully as in the cases in which I have given it a trial, and quite confident that it will prove especially useful to some country practitioner, who has not the command of a drug store as in the larger cities,

I am, very respectfully, &c.,

M. D. C. M. Summerlin, M. D.,

Sun Hill, Ga., March 15th, 1876.

Ergot for Uterine Fibroids—Correction of Views.

My Dear Doctor Edwards,—In the department of Analyses and Selections of this journal for March, 1878, you did me the honor to republish most of my recent paper on "Intra-

Uterine Fibroids." I had designed making another somewhat elaborate article on the subject, but at the present I have not leisure to undertake its preparation. Yet, there is one thing which I do not think I ought to leave unsaid. We all wish to find out the truth, and as I have changed my views on a certain point, I make an early opportunity of saying what I believe to be right, and admitting my error.

I wish, in the most decided manner, to retract what was said in my paper on the utility of the ergot in promoting the absorption, the death, and above all, the extrusion of intra-uterine growths. I had, at the time, grave doubts on the subject. I have none now, and further study and investigation have convinced me of the very great value of the drug in the treatment of such cases. The clinical evidence has accumulated so largely on this point in the discussion, and is, withal, so conclusive, that we cannot be said to do justice to our patients if we fail to avail ourselves of the remedy.

The following letter was sent in reply to some inquiries, and although brief, it must be regarded as authoritative:

PHILADELPHIA, February 24, 1878.

My Dear Doctor,—* * * * My belief in the remedial power of muriate of ammonia and ergot has not varied from that expressed in my paper before the International Medical Congress. I think, however, that, conjoined with an exclusive diet of nitrogenous food, the treatment is decidedly more efficient.

We must not expect any treatment to succeed in every case. If only a portion of the cases yield to persistent and long-continued treatment, we should be satisfied.

Hoping that your efforts in this direction may relieve suffering humanity, and in enlightening the profession,

I am, very truly yours,

WASHINGTON L. ATLEE,
1408 Arch street.

To E. T. EASLEY, M. D., *Little Rock, Ark.*

To those concerned in the inquiry, the paper and debates in the Transactions of the International Medical Congress referred to, will be found to convey valuable information. My latest conclusions have been derived from the source just indicated, and from the labors in this direction of Hildebrand and Byford.

It may not be improper to add, that the patient whose case was reported in February continues in excellent condition. I saw her yesterday, and in reply to a question, she said she was in better health than for many years.

Very truly yours,

E. T. EASLEY, M. D.

Little Rock, Ark., March 23, 1878.

Original Translations.

Translations from the French and German. By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

Tayuya as a Remedy for Syphilis (*Allg. Wien. Med. Zeitung*, No. 3, 1878). Tayuya, a plant from Brazil, has been highly recommended during the past few years as a remedy for syphilis and scrofula. It has been used chiefly by the Italian surgeons. All parts of the plant are used, but the most efficacious in syphilis is the root, either as a watery infusion, or a tincture made by adding 1,000 grammes of 80 per cent. alcohol to 339 grammes of the powdered root. The strong tincture thus obtained is to be diluted by the addition to it of 1,000 grammes of rectified spirits. Of this, fourteen drops is the maximum dose for an adult.

Ambrosoli, who has used it freely in the Maggiore and Sifilo-comio hospitals of Milan, reports favorably on its use in syphilis, and states that the skin affections, ulcerations and swellings of the glands are promptly relieved by it. Veladini reports "brilliant results," as do also Magri, Strambio, Bazzoni and others. Gamba, however, in the syphilitic hospital for women in Turin, has not had such satisfactory results. Ziessl, of Vienna, states that he has seen no injurious results from tayuya, and after giving it a fair trial, he greatly prefers it to mercury in the early stages of syphilis. He is not yet prepared to express a positive opinion as to its value in the later stages of the disease.

Nitrite of Amyl in Amblyopia. Dr. Heldt (*St. Petersburg Med Wochenschrift*, No. 37, 1877,) recommends the use of nitrite of amyl, instead of strychnia, in the treatment of amblyopia in those cases when the latter cannot be tolerated at all, or when it seems to lose its effect after a certain point is reached. He reports three cases inwhich its use was followed by most satisfactory results.

The first case was a woman, twenty-nine years old, who had borne eight children in eleven years, and whose vision was so much affected that in a moderately dark room she could not distinguish any one. The papillæ were pale, and the retinal arteries very thin. In the right eye, S=$\frac{1}{3}$, and Jaeger, No. 8, could scarcely be distinguished. In the left, S=$\frac{1}{15}$, and Jaeger, No. 5, could be read. There was concentric narrowing of the field of vision for both eyes.

After the inhalation of nitrite of amyl for three days, five drops being used each day, No. 5 Jaeger could be read with the right eye and No. 3 with the left. After being used for two days, the inhalations were discontinued. With the right eye, No. 2 could then be read, and with the left, No. 7. The field of vision was considerably widened, and in the course of a few days became entirely normal.

The second patient was a boy, twelve years old, whose acuteness of vision in the left was $\frac{1}{5}$, and who could scarcely count the fingers when held before the right eye. No cause for the amblyopia could be found, though the ophthalmoscope was not used. Under the use of strychnia, the patient improved so much that with a +6 glass Jaeger, No. 13, could be read. No further improvement could be obtained, however, under the use of strychnia, and amyl was resorted to. Three inhalations produced so much effect that No. 5 Jaeger could be seen with the right eye, and the field of vision was greatly widened. In the left eye, S=$\frac{1}{3}$. After two more inhalations, with a +$\frac{1}{6}$ Jaeger, No. 3, could be read with the right eye, and S=$\frac{1}{2}$ on the left.

The third patient, a boy fifteen years old, who with the left eye could only read Jaeger, No. 3; with the right, No. 11 was so much benefited after three inhalations of nitrite of amyl that he could read No. 1 with the left, and No. 2 with the right. Heldt observed that during the administration of the amyl the optic disk was reddened, and the retinal arteries filled with blood.

The dose for adults is five or six drops; for children three or four drops.

New Investigations on the Use of Arsenic in Tumors of the Lymph Glands. By A. von Winiwarter (*Med. Jahrb.*, 1877). [In the number of this journal for August, 1876, under the head of *Translations*, appeared the abstract of a paper on this subject. The present is a continuation of that paper, and gives the results of further investigations.—W. C. D.]

The malignant lymphoma is characterized by the following points: The new formations which spring from the connec-

tive tissue occur generally in a certain group of glands, all of which are enlarged and painless. If left to themselves, they show no tendency to undergo any retrograde changes.

The tonsils, follicles of the intestines, and the malphigian bodies of the spleen, are frequently affected; and as the disease progresses, metastatic masses occur in the liver, the lungs and the kidneys. If left to itself, malignant lymphoma always gives rise to emaciation, anæmia, loss of appetite, and disturbances of digestion. At a later period, hectic fever makes its appearance, and finally death closes the scene. The white blood corpuscles may be decidedly increased in number.

The great number, and the localities where the enlarged glands frequently occur, prevent the resort to operative treatment. The arsenic treatment, if commenced early, may produce a complete cure, and it always prolongs life very much. Tumors the size of a man's head, can be greatly reduced in the course of three or four months, and the cases in which no benefit is derived from the treatment are very exceptional. Winiwarter thinks that in those cases where other physicians have not obtained such satisfactory results, the disease was not true lymphoma, but was either genuine sarcoma or parenchymatous struma.

In cases which are suitable for an operation, the arsenic should be used subsequently at any rate to prevent a recurrence.

The best results are obtained when the medicine is given internally, and is also injected into the tissues. If poisonous symptoms arise, the dose should be diminished, but the medicine should not be suspended or diminished too rapidly. If this be done, fever and great nervous prostration are caused.

Fowler's solution is given at first in the dose of five drops twice a day—after breakfast and supper—and after a few days one drop is added, morning and evening, till the limits of toleration are reached.

Children generally tolerate the remedy better than adults in proportion to their age. If there is much pain after the injection, warm, moist compresses should be applied.

Where symptoms of softening and suppuration occur, the local treatment must be omitted, and only the administration by the mouth be practised. Fever frequently occurs in the course of the treatment. Pain alone is not a contra-indication to the use of the injections; but should inflammation occur, they should be suspended. One drop of Fowler's solution is injected daily.

Winiwarter thinks that arsenic deserves a further trial in leukæmia also.

Iodide of Potassium and Iodide of Ethyl in Treatment of Asthma. Prof. G. Sée has recently called attention to the use of iodide of potassium in asthma. The medicine is not a new one in this affection, but for some years past it has fallen into disuse. M. Sée speaks of its action in terms of most unstinted praise, and his opinions are entitled to great weight; but judging from the extravagant statements he made some months ago, in the Académie de Médicine, with respect to the curative powers of salicylic acid and salicylate of soda in rheumatism, his views should be accepted with some reserve.

The iodide of ethyl he recommends as a means of controlling the paroxysms of asthma when they occur; the iodide of potassium, he thinks, should be given for its *curative* properties.

He considers this latter first. He reports a number of cases in which he has used it, and in all, or nearly all, with most satisfactory results. In no cases which he reports as cured, has a paroxysm occurred within a year's time, and many of the cases have escaped for three or four years.

The dose he recommends to begin with is about eighteen grains a day, which is to be increased to thirty or forty-five grains per day. He frequently administers it dissolved in water or wine, but states that syrup of orange peel is the best vehicle. In case the patients become disgusted with the metallic taste, it may be given in rice papers or capsules.

The duration of treatment is very uncertain; ordinarily at the end of two or three weeks, when the paroxysms have greatly diminished in frequency and violence, he diminishes the dose and prescribes about twenty-two grains a day. The treatment may occasionally be suspended for a day at a time, but not longer, as the paroxysms will otherwise return; and M. Sée states that in one case when the treatment had been continued for a year, and was suspended for only four days, there was a return of the asthma. Some preparation of opium or chloral is frequently combined with the iodide in order to relieve the cough.

Within two hours after the administration of the iodide, the respiration becomes easier, and another paroxysm is prevented. If the medicine be continued in the intervals of the paroxysms, not only do the paroxysms themselves cease altogether, but the emphysema and oppression habitual to asthmatics disappear entirely, especially when the asthma is of the dry form.

In asthma due to valvular disease of the heart, but little can be expected from this treatment. On the contrary, those

cases due to gout or some mechanical cause, such as the inhalation of certain irritating powders, are usually relieved by the potassium iodide. The iodide of potassium should never be administered to a patient having any tendency to tuberculosis; under such circumstances, its prolonged use is very apt to give rise to hæmorrhages.

In conclusion, M. Sée states that a cure results in almost all cases, even when the surroundings of the patient were most unfavorable.

With respect to the use of iodide of ethyl, M. Sée says he has tried it in five cases of asthma, and the paroxysms were arrested in a remarkably rapid manner; in one case the effect was more prompt than when chloroform was used. In three cases of cardiac dyspnœa, he had obtained satisfactory results from its use. In three cases of chronic bronchitis with dyspnœa, he also obtained satisfactory results, although the effects were less promptly produced than in the other cases. In one case of œdematous laryngitis in a man forty years old, relief was obtained by inhalations repeated ten or twelve times a day.

With respect to the mode of action of these agents, M. Sée considers it certain that they both augment the secretion of bronchial mucus and render it more fluid, which permits the air to enter the alveoli of the lungs more readily. This is its primary effect. But in addition to this, the respiratory centre is acted on through the mediation of the circulation, which is rendered more active; the centre is excited by the increased afflux of blood, and the respiration becomes easier.

[Both of these medicines were proposed and used for asthma some years ago by Trousseau, but they seem to have fallen very generally into disuse. At the meeting of the Académie de Médicine, on the 19th of February, M. Jaccoud called especial attention to this.—W. C. D.]

Sudden Death and Syncope in Typhoid Fever. (*L'Union Médicale, &c., du Nord-Est*, January 31st, 1878.) This subject has recently been attracting a good deal of attention, both in this country and abroad, and an abstract of this paper by Dr. Blanquinque will prove interesting.

Dieulafoy, in 1869, first called attention to this occurrence, which was, up to that time, but little known, and which generally came at a time when both physician and friends were beginning to congratulate themselves on the favorable turn affairs were taking.

In the *Gazette Hebdomadáire*, for 1877, Nos. 20 and 22, the same writer reports sixty-three cases, in which either death,

or, at least, alarming syncope occurred during typhoid fever. Dr. Blanquinque, in the present paper, reports three cases which occurred in his own practice during 1876, and then discusses the pathology and treatment of the affection.

In each of these three cases—but one of which was fatal—the syncope coincided with the discharge of a considerable piece of mucous membrane from the bowels, and in all the cases the patients had previously escaped any trouble of this sort, and were, apparently, improving rapidly. With respect to the pathology of these cases, three views have been advanced. The first is advocated by Hayem, and is to the effect that the syncope is due to a fatty degeneration of the heart, [Experiments on animals have shown, it will be remembered, that one of the most important effects of a prolonged high temperature is to cause fatty degeneration, not only of the muscles, but of various other tissues.—W. C. D.] This theory although a most enticing one, cannot be substantiated. It is true that fatty degeneration does sometimes occur in typhoid fever, but it is rare that the heart is affected. M. Bussart has recently published the details of an histological examination of the hearts of five persons dying under the circumstances in question, and in none was there any cardiac degeneration. The second theory is, that the syncope is due to cerebral anæmia *per se;* but there are grave objections to this view also, for the fainting did not occur at the time of greatest weakness and anæmia. The third view, adopted by Dieulafoy, is the one which Dr. Blanquinque thinks most consistent with the facts. It is based on the well-known physiological fact pointed out by Goltz, and subsequently by Brown-Séquard, that an irritation applied to the stomach and bowels, when sufficiently powerful, will cause an arrest of the heart's action in diastole. Blanquinque suggests that the exfoliation of a piece of the mucous membrane leaves an exposed surface—the nerves of which are so much irritated that death is produced by reflex action.

With respect to treatment when the case is not immediately fatal, it should be remembered that in fainting, the brain is always deprived of blood, and the first thing to do is to counteract this condition. For this purpose, Nélaton's method of inversion of the body will suggest itself. Dr. Blanquinque speaks in the highest terms also of morphia, and states that hypodermic injections of this drug have given him excellent results. The usual remedies, such as rubbing, mustard plasters, &c., should of course be resorted to. Opium is recom-

mended to *prevent* the attacks of syncope also. [Nitrite of amyl is not mentioned at all by Dr. Blanquinque, but there can be no doubt as to its efficacy in these cases.—W. C. D.]

Proceedings of Societies.

Richmond Academy of Medicine.

March 5, 1878.—**Breech Presentations.**—Dr. J. G. Skelton remarked that breech presentations were classed among the cutocia or unassisted labors. Hodge says, as to statistics, that 20 per cent. of the children perish when there is no interference by the accoucheur, and 40 per cent. when there is interference. But the attendant should proceed with great caution to render assistance. The points to be avoided are, evacuating the bag of waters; for the child is safe as long as the liquor amnii is preserved. As to making traction upon the child—indeed, it would seem better rather to resist its advance, so that the fundus of the uterus might come down upon the head of the child and thus keep up flexion with the chin towards the centre of the pelvic canal. Great danger results to the child after rupture of the membranes, on account of the pressure of the womb upon its body and the cord. Danger was great after the umbilicus was born, because the pressure on the cord produces asphyxia. Dr. Skelton thought it best not to pull down the feet, as they help to increase the dilatation of the os uteri, thus giving a larger passage for the head. The first stage of labor should be prolonged, while the second is to be hastened.

Dr. L. S. Joynes remarked that his attention had been called to one or two points, by an article of Dr. Penrose, in relation to delivery of the head. Dr. Penrose says the use of forceps *is never necessary in breech presentations—supra-pubic pressure* having superseded their use. When the head is in the pelvis, the efforts of the women exhausted, and the accoucheur at a loss, put both hands above the pubis and press downwards in the direction of the superior strait. To produce flexion by means of pulling down the chin with the fingers of the accoucheur, it is best to pass the fingers along the lateral parts of the pelvis for two reasons, viz.: 1. The distance along which the fingers would have to pass laterally is shortened, being only about 3 inches; while it is 5 or 6 inches along the sacrum, added to the width of the perineum. 2. At this juncture, the child's head is lying transversely, a

position better adapted for introducing the fingers from the lateral side; for in the method claimed by the books, the face does not rotate backwards into the hollow of the sacrum until it has come down upon the floor of the pelvis.

Dr. Skelton remarked in reply to several questions: The French claimed that the face could not rotate towards the pubis. The dangerous part of labor commences when the umbilicus clears the perineum on account of pressure on the funis. It is best to bring down the arm nearest the sacrum first. The greatest danger occurs to the child when the head is engaged at the inferior strait on account of pressure on the cord, and the non-effective help rendered by the uterus. No difficulty generally occurs between the superior and inferior strait.

Dr. W. W. Parker thought the mortality very great in breech presentations. He believed forceps could be readily and advantageously applied. He asked if ergot was as useful in the second stage of breech presentation as in vertex.

Dr. Skelton said the objection to it was, that it produced tonic contractions of the uterus instead of paroxysmal actions. He had never known of forceps being applied to the breech.

Dr. H. H. Levy stated that he had been told that in Parisian hospitals it was rare to hear of breech presentations, as they were converted into vertex by the *internes* by external manipulation, when the waters had not escaped.

Dr. John N. Upshur related a case of shoulder presentation in which he had accomplished good results by external manipulation. Also a case of twin-birth, which was reported in the February No., 1876 (page 812) of the *Virginia Medical Monthly*.

Dr. Joynes remarked that when the os uteri is too small to admit of podalic version, one finger may be placed carefully on the presenting part of the fœtus at the os uteri, so as not to rupture the membranes, while the other hand, used externally upon the abdomen, pushes, little by little, a shoulder presentation into one of the breech, &c.

Dr. J. B. Coakley said, in his experience, one-half of the children perish in tardy labors. He gives ergot in full doses and delivers rapidly. In regard to version, he had noticed that Simpson favored it; indeed, he was so very fond of it, that he even advocated the practice in natural labors, on account of its being so much more expeditious.

Dr. Skelton said, he favors ten-grain doses of quinine, repeated every two hours, in tardy labors, where there was inertia of the uterus, as it produced more healthy paroxysmal

pains. He does not give ergot in the first stage, on account of the tonic contractions it produces, and the severe lancinating pains it occasions, without any material advance. He used ergot only after full dilatation of the os uteri. He prefers the form of infusion, made from the freshly powdered ergot: the powders are more reliable and stronger, but the ergot should be kept in glass-stoppered bottles, with camphor. His usual dose of the fluid extract of ergot was about one drachm.

Ergot as an Oxytocic.—Dr. Parker said he had no confidence in ergot as an oxytocic. He had used it repeatedly without getting any action whatever. He believed that in eight out of ten times, the effects ascribed to ergot were due to nature, for we always give the drug just about the time nature is preparing to act.

Dr. J. S. Wellford said he was very much surprised at Dr. Parker's remarks. He believed Squibb's extract of ergot would always act well. Ergotin will produce such violent contractions of the uterus, as will expel fibroid tumors, and even express or cause absorption of the white muscular fibres. He had never known Squibb's ergot or ergotin to fail. He did not think the powder reliable, and that, when 12 months old, it is almost worthless. Chloroform given beyond obstetrical anæsthesia often produced *post-partum* hæmorrhage. Here, ergot in half-drachm doses, repeated according to the necessity of the case, stops the hæmorrhage, contracts the womb perfectly, and lessens, to a great degree, the intensity of the after-pains.

Dr. Joynes remarked that while *interne* in Dublin years ago, he had seen ergot administered in the form of an infusion made from the bruised cereals, in a number of cases, with decided effect, in the minority. The custom there was to aid the action of the drug by stimulating enemata.

Analyses, Selections, &c.

Viscum Album (Mistletoe) as an Oxytocic, and for Uterine Hemorrhages.—W. H. Long, M. D., Surgeon United States Marine Hospital Service, of Louisville, Ky., in the *Louisville Medical News*, March 15th, 1878, says: An experience of ten years with this remedy enables him to speak confidently as to its properties. He was first led to its use by the fact that the farmers in the section of the country where he formerly

practised medicine gave mistletoe to such of their domestic animals as failed to "clear" themselves, or expel the placenta after bringing forth their young, to promote its delivery.

Dr. Long used it first in 1867, when he was attending a case of labor several miles distant from his office. The second stage was protracted to an unusual length of time by inefficient action of the uterus. The head was engaged in the inferior strait and pressing on the perineum. He had no ergot, but had some mistletoe gathered; an infusion was made, and half a teacupful was given to the patient. Strong contractions set in in twenty minutes, and she was soon delivered.

After this case, he had no hesitation in using viscum when occasions required. Many times after failing to get any effect from repeated doses of ergot, he has administered viscum in decoction, and always had the satisfaction of producing efficient pains in from twenty to forty minutes. He does not now recall a single instance in which it failed to stimulate the uterus to contract, and he has used it in a large number of cases.

Since he has resided in Louisville, he has called the attention of many physicians to it, and has furnished several with samples, both of the dried leaves and fluid extract, and, so far as he knows, they have been much pleased with its effect.

He believes it to be far superior to ergot—

1. Because it acts with more certainty and promptness.

2. That instead of producing a continuous or tonic contraction, as ergot does, it stimulates the uterus to contractions that are natural, with regular intervals of rest. Consequently it can be used in any stage of labor, and in primiparæ where ergot is not admissible.

3. It can always be procured fresh, does not deteriorate by keeping, and is easily prepared.

He has also used viscum in many cases of *menorrhagia* and hæmorrhage from the uterus with gratifying results. He has taken pains in such cases to give ergot and mistletoe a competitive trial with the object of testing their relative merits, and he unhesitating pronounces in favor of the latter. Indeed, cases in which ergot given in powder, decoction and fluid extract failed to give any relief, the viscum acted promptly.

A few months since, a lady applied for relief, whose menses appeared every two weeks; the flow was profuse, and lasted eight or ten days, giving her but a few days' intermission. Though he had not been using ergot for a long time, he pre-

scribed the fluid extract in teaspoonful doses, but without effect. He then gave her freshly-powdered ergot in twenty-grain doses, with a like result. He then gave her fluid extract of viscum in teaspoonful doses. The flow which was then on her was arrested the second day. She menstruated again in three weeks, lasting four days (her usual time), and again in twenty-eight days, and she has been regular as to time, period and quantity ever since. The menorrhagia had lasted her about six months, and she was anæmic and much reduced in consequence.

In *post-partum hæmorrhage* the results have been no less satisfactory than in labor and menorrhagia, firm contractions of the uterus being secured in from twenty-five to fifty minutes after administering from one to two doses of the mistletoe. He had one patient in the country who was predisposed to hæmorrhage, and she always had profuse and alarming hemorrhage after each childbirth. She had one child and a terrible hæmorrhage before he ever saw her. He attended her in labor four times, and the first three the same sudden and alarming hæmorrhage took place. The flow of blood was so great that the physician had no time to tie the cord or look after anything but the mother. In her fifth labor (the fourth of Dr. Long's attendance), he administered freely of the infusion of viscum, beginning with the commencement of the second stage. The hæmorrhage after delivery was insignificant. He learned from her husband a short time since that she has had two children since his last attendance, and the same terrible hæmorrhage each time.

Viscum may be given as an infusion, tincture or fluid extract. The most convenient form is the fluid extract. Formely he used the infusion altogether, which is made by taking two ounces of the dried or four ounces of the green leaves; pour on these one pint of boiling water, cover closely, and allow to stand until cool enough to drink. Two to four ounces may be given at a dose, and repeated in twenty minutes if necessary. The green leaves impart a disagreeable taste that is lost in the process of drying.

He has also used an alcoholic tincture made by taking eight ounces of the dried leaves and saturating them with boiling water, and adding alcohol to make one pint. He does not think this as efficient as either the decoction or fluid extract. It should stand ten days before ready for use. Viscum makes a nice fluid extract of a dark brown color, and possesses all the virtues of the parasite. Mr. Lucien Alexander, druggist, corner Tenth and Jefferson streets, Louisville,

Ky., has prepared such quantities of the fluid extract of mistletoe as Dr. Long has used. His advertisement appears in this number of the *Monthly*.

The best time for gathering the mistletoe is in November, after a few frosts have fallen and before the hard freezes; though it may be gathered and used at any period of the year. When gathered it should be at once spread out to dry, as it will mold in a very short time if kept in a box or sack. He has always dried it in the shade.

Viscum abounds in this country, and is found in greatest quantities on the walnut and elm trees, though it grows sparingly on a few others, as the red and black locust, oak, etc. So far as he knows, there is no difference in its properties or strength made by the kind of tree on which it grows.

The only mention of mistletoe made in any medical work that he has seen, as regards its effect on the uterus, is in King's *Eclectic Dispensatory*, where caution is given (in administering it for other diseases), not to give to excess, as "irritation of the uterus" may result.

[In view of the above most exalted estimate placed upon viscum album as an oxytocic, and for the arrest of menorrhagia and *post-partum* hæmorrhage, and as there is no reference to the toxic properties of mistletoe in Dr. Long's paper, it is proper that we should add that Dr. Dixon, of Whitehaven (according to Dr. Taylor's *Treatise on Poison*), reported a case of poisoning by mistletoe in the *British Medical Journal*, February 21, 1874.

A boy, fourteen years old, ate some mistletoe berries about 8.30 P. M., soon after which he began to feel giddy, and from that time he had no recollection of what transpired. About forty minutes after taking the berries he was found lying in the street in a state of insensibility; he looked as if intoxicated, although he had taken no spirit or alcoholic liquid. His countenance was suffused; the lips were livid; the conjunctivæ injected; the pupils slightly dilated and fixed; the breathing slow and stertorous. On pricking the soles of the feet, the limbs were quickly drawn up, showing that there was no paralysis of the excito-motory functions. Cold affusion was employed. He was soon able to speak, but talked incoherently, and was inclined to be violent. He had spectral illusions. Emetics were given, and brought away eight partially-masticated berries of the mistletoe. He continued in a state of excitement for two hours, after which he fell asleep. On the following morning, he had quite recovered. This case shows that the berries have a decided action on the

brain. But it appears that birds eat the berries with impunity.

This note is added by the Editor, as the remarkable experience of Dr. Long will undoubtedly be generally tested, and some one might accidentally be led to use overdoses unless he knew the toxic effects of the parasite.]

Treatment of Skin Disease by Chrysophanic Acid —Balmano Squire, M. B., London, Surgeon to the British Hospital for Diseases of the Skin, has recently issued, through the well-known publishers, Messrs. J. & A. Churchill, London, his fourth Essay on the Treatment of Skin Diseases. It is a pamphlet of 99 pages, price two shillings and a sixpence, and contains so much of useful information that we propose making quite a full synopsis of its contents.

In the April No., 1877, of the *Monthly*, Mr. T. Roberts Baker, of this city, favored our readers with a brief description of Goa powder, and referred to its uses as a ring-worm remedy. This *Goa*, or *Bahia*, or *Araroba* powder has been shown by Prof. Attfield (by means of exhaustion with hot benzol) to consist of about 85 per cent. of chrysophanic acid—a principle found as well in some other drugs, as, for example, rhubarb, dock-root, etc.

Chrysophanic acid is the *active agent* as well as the chief ingredient of Goa powder. This acid is a pale, yellow powder, soluble in hot benzol and in boiling fats and oils in almost any proportion, from which, on cooling, a large portion separates in a very fine state of division. Cosmoline is even a superior solvent. It is *not* soluble, for practical purposes, in glycerin. It fuses at a temperature between 312° and 320°F., and at a temperature of 360°F., it mixes, grain for grain, with lard. It possesses neither odor nor taste.

Schroff ascribed purgative properties to it when administered internally; and more recently, Dr. J. Ashburton Thompson (*Brit. Med. Jour.*, May 19, 1878) has shown by experiments that chrysarobin [Goa powder] in doses of twenty grains (a moderate adult dose), or six or more grains for children, is an emetic purge, of which the action is unattended by any inconvenient symptoms. The difference between the action of chrysophanic acid and Goa powder, is, that if the dose of both be too small, the powder will more likely purge only, while the acid will more probably cause vomiting only. The adult dose of the acid (equal to twenty grains of Goa powder) is fifteen grains; for children, the dose is scarcely relatively less than of the Goa powder.

The special object of Mr. Squire's publication is to call attention to the fact that chrysophanic acid—long used with great success in the form of Goa powder in different countries as a ring-worm remedy—is none the less valuable as a remedy in a large class of non-parasitic and non-contagious chronic skin affections. Ointment in some shape or other, is the best form of applying the remedy, excepting, of course, in those conditions in which grease of any kind is a therapeutic disadvantage on its own account. Glycerin is unavailable as a vehicle since chrysophanic is scarcely at all soluble in this fluid, whether hot or cold. The form in which Mr. Squire prescribes the ointment is,

℞. Chrysophanic acid.....gr. v—ʒij.
Lard..... ʒj.

Digest the acid in the lard at the temperature of boiling water (*i. e.*, in a water-bath) for half an hour, stirring constantly. When "set," mix with pestle and mortar, adding a few drops of essential oil, with a view to scenting the ointment slightly.

When ointments of the lower strengths are made (as the five grains strength suggested in the prescription above), a less period than half an hour—namely, about ten minutes—will suffice to effect the complete solution of the acid in the hot lard. But when ointments of the higher strengths (as ʒij of the acid to ʒj of lard and even stronger) are made, it is expedient to use a higher temperature, in order to effect, as completely as possible, the solution of the larger quantity of the acid. Under such circumstances, boiling oil, or about 360°F., (a heat which may be used without risk of charring the acid), may be employed by the substitution of an oil-bath for a water-bath. Subsequent mixing again of the ointment with pestle and mortar is needed to produce a uniform ointment, because, as the ointment cools, the thereby copiously precipitated chrysophanic acid is apt to collect in the form of scum at the surface of the ointment, more especially towards the edges of the vessel which contains it.

Chrysophanic acid ointment, thus made, is not only a far more active agent, therapeutically, than ointment of the acid made with cold lard in the ordinary way, but it is also preferable from a pharmaceutical point of view; that is to say, in place of being an ointment of a more or less gritty character, in which specks of the powder can be readily detected, it is a perfectly smooth and uniform substance. Another, although a minor advantage, is that, instead of presenting, as in the former case, a startling, bright yellow color, it is of a

subdued, buff-yellow color, less alarming to the patient, and perhaps (for the quality is noticeable in these days of "*chic*") more in harmony with the refined taste for *teintes degradées* which now prevails.

The chrysophanic acid, in ointment thus prepared, is not in a state of solution in the lard, but only in a condition of the very finest possible division, such a condition as can only be obtained by the process of causing it to assume (while in the lard itself) the state of recent precipitation.

The strength in which the ointment should be used in different cases will vary, of course, considerably. A uniform composition as to strength of an ointment of any kind is, indeed, a therapeutical absurdity; but more especially so when that ointment, as in the present case, is an ointment of stimulant or irritant character. As a rule, Mr. Squire prefers the stronger preparation of the ointment, as in the prescription given, unless some special reasons exist for abating it. By the use of this stronger ointment, he has seen even a fairly copious and long standing eruption of psoriaris disappear under a week or a fortnight's assiduous use. But he has also obtained good results with a milder quality of the ointment, although in such cases, the treatment becomes spread over a much longer time.

Mr. Squire recommends to those who are without practical experience of the phenomena produced by the remedy, to proceed in the first instance cautiously—that is, begin with an ointment of weak strength, because the action of chrysophanic acid on the skin, like that of every other kind of ointment, presents certain peculiarities. One of its chief peculiarities is, that after a certain strength (say, the highest named in the prescription) has been steadily employed for sometime—a few days—without any special result, other than the uniform improvement of the disease, the acid is apt quite suddenly to take on a rather violent action. In one instance, under Dr. Squire's care, it produced a vivid erythematous inflammation of almost the entire skin, accompanied by an intense burning, tingling sensation, together with a distressing sense of shivering. This condition, notwithstanding the use of prompt remedies, continued for some hours.

The successive phenomena attending the action of chrysophanic acid are as follows—assuming that the two drachms of acid to one ounce of lard ointment has been used. First, there is produced a dusky erythematous redness, which is more or less pronounced according to varying conditions—such as the special degree of sensitiveness of the skin of the

patient in question, the part to which the ointment is applied, the care that may be given to the preparation of the skin for the ready penetration of the ointment, etc. As to the point last named, Mr. Squire has the affected skin wiped with a piece of rag, moistened with benzol—one of the most efficient of the cheaper solvents of the natural grease which forms the uttermost coating of the integument (the homologue or remnant of that considerable layer of grease which is the appanage of new-born infancy). This film should be removed so as the more readily to soften, by means of soap and water, the thick, scaly, epidermic encrustations, and thus favor the local application of an ointment.

The dusky erythematous redness mentioned as the first effect of the tangible action of chrysophanic acid on the skin, is the resultant of two quite separate actions of the drug. One is its stimulant or irritant effect on the skin, which occasions a bright red color, varying from pink to crimson, according to its degree, which is the common result of stimulation of the arterioles of the skin by irritants of any kind; the other is its independently coloring effect, combining with the potash of the skin, forming the chrysophanate of potash, which has a brownish purple color.

The dusky erythematous redness of the skin is sometimes of a specially punctate or dotted character. These dots correspond to the hair follicles, the circumference of which is of a deeper dusky-red than the intervening skin. In addition to this coloration, sometimes a feeling of slight warmth and of stiffness of the skin is experienced. These are the phenomena to which, in most cases at least, it is desirable to confine the action of the drug.

Its further action is to intensify the redness and brighten the tint. That is to say, the irritant action excels the staining effect of the acid. Following on this, is an inflammatory thickening of the skin, accompanied, as it proceeds, with some degree of œdema of the subcutaneous cellular tissue. This œdema is, in some cases, very marked. Even on the arm—a region by no means prone to become œdematous—Mr. Squire has seen the skin speedily become, under the influence of chrysophanic acid, so decidedly œdematous as to "pit" on pressure very markedly, not only without coincidentally blistering the epidermis, but even without the production of the least possible redness of any portion of the circumjacent skin. Another phenomenon is a smart sensation of burning and tingling, which, if the surface treated be a very considerable one, soon becomes almost intolerable. In a few in-

stances, the employment of strong chrysophanic acid ointment has been attended with a copious eruption of boils (true *furunculi*). This acid exhibits in a special degree the property of inflaming the *subcutaneous cellular tissue* in a far greater degree, and with infinitely less irritation of the skin, than blistering fluid is capable of achieving; and even, sometimes, with far less irritation of even the deeper structures of the skin proper than is produced by iodide of mercury; but it does not vesicate.

This capacity of deep seated action of chrysophanic acid contributes to the safety and convenience of treatment by it, inasmuch as that kind of effect which is essential to an expeditious cure is actively brought about by it, while its action yet may be, nevertheless, restrained well within the limits of producing either smarting or redness of the surface; whereas, with other substances, which have not this property, it becomes essential to push them to the limits of causing rawness and tenderness before any deep seated action can be extorted from them.

Among the disadvantages of chrysophanic acid, may be mentioned first, that it is a dye; but this dyeing of the skin wears off completely within a few days after its use has been suspended. It stains nails of a purple-brown color, which does not wear off so readily as when the dye is applied to the epidermis; but it may at once be completely removed by gently scraping the nails with a penknife. It also dyes the hair of a yellowish or purple-brown color, and also stains the linen with unsightly blots of a deep purple color; but the linen is not corroded by these stains, as in the case of "iron-mould." But chrysophanic acid does not become a "fast" dye until it meets, in the substance dyed, with its mordant. This mordant, in the cases in point, is potash or soda. So that, unless the hair or linen be washed with soap and water, the stain can be removed by means of benzol, or what answers as well as regards the hair, by the use of warm olive oil.

Another disadvantage is the tendency to produce œdema of the eyelids when the acid is applied to the scalp. Mr. Squire obviated this difficulty in the case of a gentleman who had psoriasis of the scalp, by directing him to wear at night a well-fitting linen cap, tied under the chin, and to cleanse his fingers carefully by means of benzol after each use of the ointment. In this case, the ointment was applied both to the scalp and the affected forehead.

Among diseases in which chrysophanic acid has been successfully used, and is specially recommended by Mr. Squire are:

Ring-Worm (*Herpes or Tinea Circinatus*).—Chrysophanic acid, or the cruder form of Goa powder, has long been extolled as the Eastern ring-worm remedy, and is said to be a specific therefor. Dr. H. Radcliffe Crocker, Physician to the Skin Department of the University College Hospital, employed the acid either in the form of a saturated solution in benzol, which retains about ten grains to the ounce when cold, or else as an ointment made with lard in the proportion of from ten to forty grains of the acid to the ounce of lard. A half dozen or so applications of this ointment were all that were required in most cases. The ointment should be well rubbed into the patches every night.

Tinea Tonsurans (*Porrigo decalvans*).—Of 20 cases treated by Dr. Crocker, by chrysophanic acid ointment, in which the disease had lasted for some time, and in most of which other remedies had been tried, two were completely cured in from four to eight weeks; seven were improved, and the remaining eleven cases were only slightly improved under three months treatment by chrysophanic acid. It is proper to record this result, as it may save some from expecting too much of this remedy in cases of tinea tonsurans. The tendency to cause œdema of the eyelids by an application of the acid to the scalp should be remembered.

Pityriasis Versicolor (*Chloasma*).—In cases of these "liver spots," as this disease has been called, chrysophanic acid is very serviceable. This affection, as is well known, is dependent upon the presence of the germs of the fungus, *microsporon furfur*. Unless the disease is present in a marked degree, the spots fade off, in the less developed patches, into faint gradations of color, which render the limits of disease difficult of identification. While chrysophanic acid (in the strength of ointment generally used by Mr. Squire) cures this disease in a specially rapid manner, it at the same time furnishes an exceptional means of assuring the observer as to the completeness of that cure. By the next morning after the first application of the acid, the utmost extent of the eruption, even to the very faintest details, is defined. The color of the patches is intensified within a few hours, so as to make vividly manifest the faintest patch of eruption—changing the faintly tawny, yellow eruption into a deep brown, sombre and sharply defined archipelago—fainter, indeed, at its originally fainter parts, but even *there*, a vivid and sharply defined stain. Within generally from two to three efficient applications, the sombre coloration disappears by desquamation of the effected surface, and the patient is cured.

Acne Rosacea.—Mr. Squire has used chrysophanic acid successfully in that form of this disease, which is familiar as the blotched face of middle aged persons. The strength of the ointment when applied to the face should not exceed forty grains to the ounce. The ointment was regularly rubbed well all over the face (avoiding the eyelids and the lips) three times daily. There was no smarting, and only the slightest puffiness of the face produced by the acid, which passed off in a few days.

It of equal service in cases of *Acne Juvenilis*, the pimply face and shoulders of young people, In the case of a young gentleman, with a tolerably strong ointment, Mr. Squire caused the disease to disappear from his shoulders, etc., within a week.

Lichen Planus and *Lichen Inveteratus*, are other of the chronic skin diseases which are greatly benefitted by chrysophanic acid ointment. Mr. Squire advises beginning with an ointment of weak strength.

Chronic Eczema, occurring in definite circumscribed patches, is another of the affections of the skin that is curable by chrysophanic acid. Mr. C. W. Chubb applied the ointment for the first time May 12th, on a patient, aged 16 years, who had eczema from his infancy. Almost instant relief was experienced from the ordinary great pain and annoyance; and at the end of three weeks, the patient was coming out with a new skin.

Psoriasis.—But it is the chief object of Mr. Squire's *Essay* "to claim for chrysophanic acid that it is a much more efficacious remedy for psoriasis than the remedies ordinarily in vogue for treating this disease; and, in addition to this, that it is attended, on the whole, with far less inconvenience than attaches to those other means which are most in repute." Chrysophanic acid, besides curing psoriasis more rapidly than tar—the next most potential remedy—has the other advantage of being more cleanly, and not possessed of stickiness or odor. Only a few days of treatment are required.

When the acid is first applied to the surface of skin affected by psoriasis, the diseased skin at first assumes a sadder or "deader hue." This change, at the very outset, is partially due to the effect of mere coloration; but very speedily, indeed, it is the evidence or the true result of improvement. Within two or three days, the eruption, as a rule, is really on the wane. The affected skin loses its morbid undue thickness, and its surface is altered perceptibly in character, until at length, when the patch becomes eventually cured under

the influence of the remedy, a remarkable and satisfactory phenomenon presents itself. The skin around is progressively stained more and more deeply of a dull, brownish color, and coincidently begins to exhibit signs of desquamation. But the patch of disease itself meanwhile becomes smoother, *losing its morbid desquamation*, until at length it becomes even preternaturally smooth, acquiring a somewhat surprising polish, perceptible alike to the eye and touch. At the same time, it becomes *perfectly white;* and this ivory whiteness and smoothness contrasts vividly with the dingy color and comparatively harsh surface of the surrounding previously healthy skin. This appearance, however, wears off completely within a few days after the suspension of treatment. No traces, even, of the acid or the former disease are left. Even in cases where the remedy has been pushed to the excitement of erythematous inflammation, *then*, curiously enough, the patches previously occupied by the psoriasis eruption remain exempt, or, at least, markedly exempt from the irritation excited around them; so that, as a rule, they still exhibit themselves under the guise of white or only slightly pink islands, in the midst of a broad halo of duskily tinged erythematous redness.

An Addition (?) to the Therapeutics of Tetanus.—A. P. Boon, M. R. C. S., L. R. C. P., District Medical Officer, St. Kitts, West Indies, late House-Surgeon, St. Mary's Hospital, in the March number, 1878, of *The Practitioner*, gives so favorable a record of his results of treating tetanus by *large doses* of chloral and Indian hemp combined, that we copy the article entire.

There is no doubt that our knowledge of the pathology of tetanus is in a very unsatisfactory condition, and that our treatment has, until recently, consisted of feeble gropings in the dark, but I cannot but think that we do at last see some glimmer of light.

Here, in this island, we have been very successful in the treatment of tetanus. Of six consecutive cases treated by myself and my father, Surgeon to the Government Hospital, no less than five have recovered. Three were of the traumatic kind, one of which died.

Mr. Semper, of this island, Surgeon to the Sandy Point Hospital, informs me that he has also saved five out of the last six cases attended by him—one case of idiopathic tetanus dying. So we have ten recoveries in twelve consecutive cases. If such a proportion can be kept up, surely it must be conceded that, considering our "present knowledge of

the conditions to be met," we are fairly successful. And yet there was absolutely nothing new in the treatment of the above cases.

Dr. Semper treated his with chloral and opium combined. I may here add that he commenced administering these drugs together in tetanus nearly ten years ago.

To all my cases, I gave chloral and Indian hemp; and it is to this method that I would call attention, as I firmly believe that, if thoroughly carried out, not less than 75 per cent. of recoveries would be the rule.

The author of the above-mentioned article says of chloral, "large doses must be given and may be given without fear." This is the secret. To an adult I give as the first dose 30 grains and 2 grains of Indian hemp. Three hours after, I increase the dose to 45 grains, and then to 60 grains after a like interval. I find this quantity, with four grains of Indian hemp, every three hours, generally sufficient for an average case of acute tetanus. I have given as much as 720 grains in the 24 hours, and one patient consumed one pound of the drug in fourteen days with excellent results. The object in pushing the drug to this extent is to keep the patient fully narcotised until the mischief in the nervous system has righted itself. What we fear is the tetanic spasm frequently recurring, wearing away the patient's strength, and each time endangering his life by the risk of death from apnœa caused by spasm of the respiratory muscles.

The patient, when fully under the influence of the drugs lies with all the muscles relaxed. Sometimes there are a few slight spasms; as often there are none. He can be easily roused to take nourishment, which should be given in a fluid form and warm. Now, it seems to me that the mistake practitioners make when exhibiting chloral in tetanus is, that they wait till the effect of one dose has worn off before they give the next. It is impossible to treat the disease with any great success in this manner. Keep the patient thoroughly and continuously under the influence of the drug, and if you can tide over the first fortnight, you may count on pulling him through. But great caution must be exercised just at this period. In one of my cases, on the sixtieth day of the disease, as there had been no spasms for three days, I ordered the medicine to be discontinued; twelve hours after, in my presence, he had a severe spasm; the treatment was at once resumed, and there was no return of the disease until the twenty-first day, when precisely the same thing again occurred. This patient ultimately recovered.

The reason I give Indian hemp is, that it seems to give a sort of continuity to the effects of chloral. When the latter is given by itself, the patient seems to come from under its influence suddenly, and may have severe tetanic spasms all at once. Whereas, with the combined drugs there is, as it were, a gradual awakening, with slight spasms increasing in intensity. I do not, therefore, think it is possible to treat acute tetanus with chloral alone.

Sexual Hygiene.—Dr. George M. Beard, of New York, in the *Proceedings of the Medical Society of the County of Kings*, April, 1878, makes the following very practical remarks on a subject that is of generally admitted importance, but one that is strangely shunned by the mass of the profession.

Among the many departments of hygiene, the study of which has been systematically neglected by the profession, is that of the function of generation and of the sexes in their relation to each other. In relation to chronic nervous diseases, sexual hygiene is of all importance; on acute diseases it has little direct influence, and therefore medical science has passed it by. The inductive investigation of the subject is a very difficult and delicate matter, and is complicated with elements of error without number. The practical conclusions on this subject, that seem to be required by a comparison of all evidence that thus far I have been able to obtain, are these:

1. In savage, barbarous and semi-civilized lands, the sexual appetite can be, and is, and always has been, indulged by both sexes, not only in the natural way, but in all sorts of unnatural ways, to enormous excess, without traceable harm to the nervous system. To a less degree, this is true of the lower orders in civilized lands—as slaves, sailors and peasantry.

2. The brain-working, indoor-living classes of civilization find it necessary to observe the same caution in this respect as in regard to diet. They can bear only a fraction of what to the savage or the slave is a matter of indifference.

3. There are individual idiosyncrasies in this regard. Some who are very feeble can bear much sexual indulgence, just as some who cannot raise their heads in bed, or take any stimulants or tonics, can eat and digest large quantities of food, or bear any amount of alcohol or electricity.

4. Sexual intercourse is a tonic and sedative; and, like other tonic and sedative measures, it induces sleep, or, at least, quietness, and increases the disposition and capacity for work.

When carried to relative excess—that is, excess for the individual at the time—it may produce, primarily, nervousness and wakefulness, and, secondarily, headache, neuralgia and various symptoms of exhaustion. The appetite for sex, like the appetite for food, can't well be regulated by arithmetic; but whenever any of these symptoms follow indulgence, they suggest excess at that time. At another time, under different circumstances, the same indulgence for the same individual may do no harm.

5. The evil effects of over-persistent sexual excess are usually temporary and very recoverable.

The German notion that structural and incurable diseases—as locomotor-ataxy, progressive muscular atrophy—are caused primarily by sexual excess, is not sustained by my observation. Functional excess of any kind causes functional, not structural disease. Just as excessive brain-work, uncomplicated with worry, may cause cerebrasthenia or brain-exhaustion—just as excessive eating may cause atonic dyspepsia—just so excessive sexual activity may cause sexual exhaustion, either local or general; but none of these types of functional debility are usually of a permanent character. Removing or modifying the cause in time removes or modifies the effect. Almost all healthy children over-eat; almost all healthy men at times over-use the brain and the sexual organs; but only a few are permanently harmed thereby. I am here speaking of the general law, to which exceptions are now and then to be seen. I was once consulted by a man of middle age, who presented a sad picture of misery and debility that was pretty clearly the result of long-kept-up masturbation; but in his case—and, indeed, in all similar cases—the objective evil of his habit had been reinforced by the subjective evil of dwelling upon and magnifying it. Proper advice and treatment, and sexual regimen, including marriage, would have cured even him, and may yet do so.

It would appear that the organs of thought, the organs of digestion, and the organs of generation can bear, and were designed to bear a vast amount of abuse without permanent injury. Were it not so, the human race would disappear from the earth.

In regard to the relative harmfulness of the natural and unnatural methods of sexual excitation, it may be said that masturbation is more likely to injure, for these two reasons: First. It can be practised in early years, even in childhood; and, secondly, it can be practiced at any time and alone, and therefore more frequently. These two causes, more probably

than the difference in the acts themselves (although there is, *per se*, an important difference), account for the temporary or permanent debility that follows long-continued masturbation.

Likewise involuntary emissions at night—occurring now and then—are physiological and not injurious; but when occurring frequently, as a large number of times a month, and when worried over and dreaded by the victim, produce exhaustion.

Under this head I may say that there is no question that an important proportion of cases of functional nervous disease in both sexes are brought on or made worse by sexual excess and disturbance. As a rule, these maladies are most common between the ages of fifteen and forty-five, when the sexual system is most active and most liable to abuse. I am persuaded that our remedies often disappoint us, because the patient, through this function, keeps up a constant irritation—an irritation, perhaps, which on a strong and savage constitution would have no effect, but on a civilized nervous temperament is full of evil.

6. Excessive sexual indulgence or abuse, acting on a *strong* constitution, produces *local* functional disease of the sexual organs—impotence in its various grades; acting on a nervous and delicate constitution, it produces general nervous exhaustion.

The worst cases of impotence I have ever seen have been in men of iron frames. The feeble, finely-organized constitution cannot abuse itself long enough to become impotent; excess so soon shows itself on the general system, that it is impossible to induce local disease. In writers' cramp—a malady that I am now specially and statistically investigating—the same law holds. Writers' cramp is a disease of the comparatively strong; the feeble and nervous cannot write hard enough or long enough to get the disease—fatigue of the system warns them in time, and forces them to stop or take it easy.

Thus far I have been speaking mostly of the chronic nervous disease of adults; in children, however, some of the same general principles apply. The infantile nervous system, however, differs somewhat from that of the adult in its susceptibility. Young children, for example, do not have neuralgia, or sick headache, or hysteria; they can bear chloroform without harm, and also electricity in larger doses than adults. Both of the latter points are impressed on me by operations in the electrolytic treatment of nævi. It is possible that cases of chronic chorea in children might be cured by prolonged rest in bed.

Differential Diagnosis of Multilocular Cerebro-spinal Affections.—M. Charcot, gives the subjoined Table in the *Gazette des Hôpitaux*. We have written in *italics* the symptoms to which greatest importance is given.

	Tabetic Series.	Multiloc. Sclerosis.	Dissemin'd Syphilosis.	General Paralysis.
Cephalic Symptoms.	Epileptiform Apopletic Attacks...	*Epileptiform Apopletic Attacks..*	Epileptiform Attacks. ..... Par. Hemiplegic Epil'y...	Epileptiform Apopletic Attacks.
	Vertigo	*Vertigo*	*Vertigo*	*Vertigo.*
	Diplopia, Strabismus	*Diplopia*	*Amblyopia Optic Neuritis.*	Diplopia.
		Nystagmus.		Amblyopia.
	Amaurosis	Amblyopia, White Atrophy	*Diplopia*	*Inequality of Pupils.*
	Inequality of Pupils			
	Facial Anæsthesia		*Headache, Fixed Pain*	Headache.
	Deafness			
	Meniere's Vertigo			
	Laryngismus	*Embarrassment of Speech*		*Embarrassment of Speech.*
	Embarrassment of Speech	*Difficult Deglutition*		
		Pneumogastric Palsy.	Total Facial Palsy.	
Visceral Symptoms.	*Gastric Crises*	*Gastric Crises*	Non-nervous Crises	
	Nephritic Crises			
	Vesical Crises			
	Paresis of Bladder			Paresis of Bladder.
	Cystitis			
Spinal Symptoms.	*Girdlepain*	Lightning Pains	*Pseudoneural Pains*	*Lightning Pains.*
	Hyperæsthesia Anæsthesis	*Plaques*	*Spinal Hemianæsthes*	*Tingling.*
	Incoordinated Movement	Incoordination		*Incoordination.*
	Contractures and Trepidations	*Special Trembling*	*Spasmodic Paraplegia under form Hemiparaplegia*	*Paresis. Trepidation.*
		Spasmodic Paraplegia		*Special Trembling of Hand.*
Trophic Sympt'ms	Eschars	Eschars		Eschars.
	Arthropathies	Arthropathies.		
	Fractures			
	Muscular Atrophy.	Muscular Atrophy		Muscular Atrophy.

We should be guided chiefly by the symptoms which are,

so to speak, characteristic. Thus, if we observe, in a patient, ataxy with nystagmus, we must think of multilocular sclerosis and not of locomotor ataxy (tabetic series), because nystagmus is a valuable symptom of multilocular sclerosis. In the same way spasmodic paraplegia (recognized by the continual trembling movements which are produced when a single blow is struck upon the soles of the feet) is much more characteristic of syphilosis than of multilocular sclerosis, especially if accompanied by *fixed pain*, which always indicates a phenomenon of compression. Ex.: paraplegia consecutive to Pott's disease.—*Canadian Jour. Med. Sci.*, April, 1878.

Cleansing the Bladder without the Use of the Catheter.—In the August number, 1876, of the *Virginia Medical Monthly*, Prof. Hunter McGuire, M. D., of this city, contributed an article on "Injecting the Male Bladder without the Aid of a Catheter," which article was generally quoted by our exchanges at the time—home and foreign. It seemed, however, to have attracted the attention of foreign surgeons, even more than those at home. Several papers soon after appeared on the subject, and all reported favorably on the plan suggested by Prof. McGuire. This plan consisted in using simply an elastic bag, with a properly shaped nozzle, the end of which was inserted about half an inch into the meatus; the nozzle was held in place by gently compressing the glans penis with the thumb and finger around the nozzle so introduced; and the fluid was then injected by compression with the other hand of the elastic bag.

Dr. Berthole (*Cbl. f. Chir.*, No. 52, 1877; fr. *Gaz. Hebdom.*) suggests a different method of injecting fluids into the bladder without the use of the catheter, a plan which, although not new, has not received the attention which perhaps it deserves. It is a modification of McGuire's plan.

It is known that if a stream of water or other fluid is introduced into the urethra it will, if entering under sufficient pressure, gradually dilate the sphincter vesicæ, and it may be caused to enter the bladder when, through inflammation or otherwise, the urethra is so sensitive as to prevent the passage of a metal or gum catheter.

In using the injection by Berthole's method, the patient sits on the floor with his back against the wall, thighs and knees turned out, and the toes turned in. A vessel is placed conveniently to catch any water which may escape. An irrigator with a long tube, with a stop-cock somewhere in its course, is placed upon a bench near by. The tube of the ir-

rigator terminates in a canula of hard rubber twelve to fourteen centimetres long, and six millimetres in diameter, which is well oiled and inserted into the urethra, and the patient keeping this in place with the left hand, can easily regulate the flow of the fluid with his right hand upon the stop-cock. When the latter is opened, the water usually penetrates into the bladder without the patient's being conscious of its entrance. So soon as he feels the desire to urinate, the stop-cock is to be turned off, as the bladder is then full. The patient can now empty the bladder at once or can retain the fluid some little time. The water should be warmed to the temperature of the body, and the best time for employing the injection is just before going to bed. A single injection, in cystitis, will thin the stagnant urine and deprive it of its irritating quality.

The indications for the direct injection of water (or medicated fluids) are as follows: 1. Diseases of the bladder, and particularly chronic essential or consecutive cystitis. In the former, Dr. B. considers this method specific; in consecutive cystitis it is only palliative, of course, since the cause (stone, etc.) must be removed. 2. Contraction of the neck of the bladder. 3. Diseases of the prostate, the injection here being directed against the consecutive vesical catarrh. 4. Diseases of the urethra—in particular, urethritis of the deeper portion, where contraction of the membranous portion and of the sphincter vesicæ, with consecutive catarrh, is present. Contra-indications: 1. Paralysis of the bladder. 2. Hypertrophy or other diseased condition of the prostate interfering with urination. 3. Stricture.—*Phil. Med. Times*, March 30, 1878.

Laparo-Elytrotomy as a Substitute for Cæsarean Section.—At the stated meeting, March, 1878, of the New York Academy of Medicine, Dr. Gaillard Thomas read an important paper upon the above subject, gave a detailed report of all the cases in which the operation had been performed, and set forth the advantages which it had over that of Cæsarean section.

The operation had been performed only once prior to the date at which Dr. Thomas performed it in 1871, and then by Ritgen. It had been performed upon the living woman since that date *five* times—three times by Dr. A. J. C. Skene, of Brooklyn, and twice by himself. Of the five mothers, *three* were living, and the number of children delivered alive was *four*. No such results could be shown for the Cæsarean section, and no better results had followed embryotomy. All the cases had been reported and published, with the exception of the last, which was operated upon in December, 1877.

The operation was simple, and consisted in making an incision through the abdominal walls from the spine of the pubes to the anterior superior spinous process of the ilium, lifting the peritoneum, making an incision through the upper portion of the vaginal wall, tilting the body of the uterus over to the opposite side, and then, through the dilated cervix, delivering the child by version, by the forceps, or by extraction. Delivery was to be effected by version in arm-presentation; by forceps when the head presented; and by extraction in breech-presentation. Hæmorrhage was one of the things to be feared in the operation; but in five cases no hæmorrhage had occurred, and why should it occur in future operations? But, even admitting that hæmorrhage occurred, it became a question whether the risks should not be taken, because the risks of peritonitis and shock following other operations were avoided. The dangers of Cæsarean section were peritonitis, metritis, hæmorrhage, shock, incarceration of the intestines in the uterus, and septicæmia. By the operation of laparo-elytrotomy, the danger from peritonitis, metritis and incarceration of the intestines was entirely avoided, and, in a great degree, the danger from septicæmia and shock was diminished. The operation might be followed by hæmorrhage, and, in place of peritonitis, cellulitis might be developed. Dr. Thomas did not regard laparo-elytrotomy as yet an established standard operation, but he did regard it as an operation sufficiently tested by experiment to deserve a careful consideration at the hands of the medical profession.

Dr. Fordyce Barker congratulated the author of the paper for his genius in devising this operation, for his success in performing it, and for his ability in giving us this most interesting paper. But he hoped that if the gifted author is going on to devise new operations of such importance, he will give such names to them as will be significant and easily understood by those of us who ordinarily use simple English, and enable us to follow the advice of Hamlet to the players, "Speak it trippingly from the tongue." There are many surgeons in this country who understand Pirogoff's operation, and are perfectly competent to perform it, who would hardly know what was meant if it were called by some name of Greek derivation. In speaking of this operation, Dr. Barker will call it "Thomas' operation."

The paper opens an immense field for discussion. The subject involves discussion, not only of great questions in science, but also of professional morals, which it seems probable must be re-opened, and new points established in relation to them in our practice.

First, This operation, as a question of science, is to be compared with Cæsarean section. Is "Thomas' operation" to take the place of Cæsarean section as a whole, or only in a limited class of cases? That it will be an accepted operation in some cases, Dr. Barker is perfectly sure. He does not mean to imply that the author has assumed the position that his operation will entirely take the place of the Cæsarean section; but he asked whether it is to take such a place, and whether it will prove to be so much safer as to lead us to give up the Cæsarean section entirely? This question can be answered only by careful study of all the conditions, and by an experience which will require a long period of time to accumulate.

There is one consideration which is not alluded to in the paper, and it is this: No doubt the author of the paper fully believes that when, in the course of time, all the conditions necessary to the successful performance of Cæsarean section have been studied with the same carefulness, with the same minuteness, and the same amount of experience has accumulated as we now have in relation to the operation of ovariotomy, the mortality from the Cæsarean section will be greatly diminished. Dr. Barker is not sure that the mortality from that operation will be found to be any greater than the mortality which will result from the operation which Dr. Thomas proposes to substitute for it in a majority of cases. For, while Dr. Thomas has given a clear statement relative to the comparative danger in the two operations, Dr. Barker is not quite prepared to accept all the results just as he has stated them, or to exclude all the dangers referred to as belonging to his operation, and which he seems to believe belong to the Cæsarean section. Of course it will be profitless to discuss this theoretical question. However, Dr. Barker thinks it is possible that, with improvement in the future, the mortality from Cæsarean section may be so reduced as to make it nearly as safe, or perhaps more safe in some cases, than the operation proposed by Dr. Thomas. Improvements in operations and methods of management are constantly being made. One of the great dangers of Cæsarean section is subsequent septicæmia resulting from entrance of lochial discharge into the cavity of the peritoneum. It has been proposed as a method of obviating this danger, after the abdominal walls have been opened, and an incision into the uterus has been made, to bring the uterine and the abdominal walls together by means of sutures, so as to bring the peritoneum of the uterus and that of the abdominal walls directly in con-

tact, before removing the fœtus and placenta. Lestocquoy, who first suggested this modification, which, it seems to Dr. Barker, will prove a great advance in the method of performing the Cæsarean section, tested it in one case and was successful.

Tarnier has performed this operation twice, and in both cases the women died of gangrene of the uterus, but this result cannot be regarded as due to this modification. One of his cases, however, was complicated by the fact—a rare circumstance—that the placenta was situated upon the anterior surface of the uterus.

If it should come to pass that in a certain number of cases the danger of one operation is found to be no greater than the other, this advantage, which, perhaps, it may be well to consider, will follow the Cæsarean section, viz., the condition of the patient is much more favorable than after the operation which has been brought forward. For, if it results favorably, it leaves no lesions behind it, no condition of the patient which hinders her from performing the functions of a wife and a mother as well as before the operation is performed.

Second, Let us consider this operation in its relation to craniotomy. Is craniotomy to be abolished as a legitimate obstetric operation? No one would propose the operation devised by Dr. Thomas when the fœtus is dead, except in the very rare circumstances under which it was performed by Dr. Skene. Consequently the question remains to be discussed—Suppose the fœtus to be *living*, whether hereafter and forever Thomas' operation is to abolish the operation of craniotomy? By craniotomy it must be remembered that I mean the operation of the present day, with all the improvements resulting from the use of the cranioclast and the cephalotribe. These improvements make the operation, with regard to the safety of the mother, altogether different from what it was formerly.

If "Thomas' operation" is to abolish that of craniotomy in those cases in which the fœtus is living, we must necessarily, in certain respects, review, and almost revolutionize, the obstetric ethics of the profession. If there is any one *canon* settled in obstetric science as regards ethics, and accepted universally by all creditable authorities, it is this: Where the obstetrician is compelled to make an election, whether the life of the mother or the life of the child is to be preserved, he is to preserve the life of the mother. As a direct consequence of this doctrine, it necessarily follows that no obste-

trician has a right to perform an operation to save the life of the child in which there is serious risk for the mother, when by another operation that danger can be entirely avoided, although it sacrifices the life of the child. While Dr. Barker believes he is correct in saying that every obstetric authority of any weight, both in this country and Great Britain, holds to this view, it is not exactly his own view; he should qualify it somewhat.

But then comes the question, Is there any obstetrician who would be sustained by the profession in performing an operation which must involve some risk to that mother, when it is perfectly certain that we have a method of extracting that fœtus without any danger to the mother from the operation. No physician would be sustained by the moral sense of the profession in doing it, if it became a question for trial or discussion.

Now, then, it is believed by all competent obstetricians that craniotomy can be performed with perfect safety to the mother with a contraction of the antero-posterior diameter down to two inches, provided there be a transverse diameter of three inches, and the diameters of the inferior strait are normal. With our modern improvements in instruments and our present knowledge of the mechanism of labor, Barnes, Braxton-Hicks, and many other eminent authorities believe it possible and safe, with a contraction of the antero-posterior diameter to one and three-quarters, and even one and a half inches. In these cases, for the sake of saving the child, are we justified in performing an operation which involves serious danger to the mother?

Whatever the future may determine as to limit in the class of cases to which Thomas' operation is applicable; whatever the discussion of the future may be as to how far it is to take the place of Cæsarean section or of craniotomy, Dr. Barker is certain that the great merits of the operation will be so established in obstetrics by the profession at large, and throughout the entire world, as to satisfy the ambition of any man, to be regarded as a great contributor to the advance of the obstetric art in a limited class of cases. It struck Dr. Barker while listening to the paper, that one of the cases of Dr. Skene furnished one of the most brilliant triumphs of the obstetric art of which he has any knowledge.

Dr. T. C. Finnell referred to three cases in which he had performed Cæsarean section under very unfavorable circumstances. All the mothers died and two of the children. He was of the opinion, however, that the Cæsarean section was

the safer operation. He raised his solemn protest against taking the life of the child under any circumstances. When the child was dead, there was an operative procedure to which resort could be made.

Dr. Pallen regarded laparo-elytrotomy, or Thomas' operation more properly called, as one which was destined to take the place of Cæsarean section. He was of the opinion that to Dr. Thomas belonged the credit of devising the operation.

Dr. Thomas, in closing the discussion, remarked regarding the name of the operation, that he was forced to select the term laparo-elytrotomy, because it was the only one which was not in some way intimately associated with other operations.

The weakening of the uterine walls, which inevitably followed Cæsarean section, was avoided by laparo-elytrotomy, and thereby one of the important causes of rupture of the uterus was avoided.

One reason why rupture of the vagina was so generally followed by fatal results, was because it gave opportunity for infiltration of the adjacent tissues with discharges from the uterus. There was nothing in rupture of the vagina simply which would kill a patient; for rupture into the bladder very seldom destroyed life, and it was because free drainage could take place. When, however, rupture of the vagina occurred in its lower portions, so that the cellular tissue of the pelvis could become involved, the accident was very serious; but by this operation the opening into the vagina was made so that free drainage could be secured. The drainage could be facilitated by injection of antiseptic fluids, and thus the tendency to septicæmia avoided. The opening being made upon one side of the vagina, it was thought that it would remain closed, and it was believed that the calibre of the vagina would not be interfered with.

With regard to the ethical question, the paper was entitled "Laparo-Elytrotomy as a Substitute for Cæsarean Section," and special pains had been taken not to bring the operation forward as a substitute for craniotomy. He was very sorry, indeed, to think that any physician could not take, under certain circumstances, the responsibility of destroying the life of the child. He believed there were circumstances which would justify him in taking the life of another man; and he also believed that he who stood on the bank of a canal and saw a person drowning, and did not make some effort to save that person, was nearly as guilty as he who pushed the person into the canal with the avowed purpose of

drowning him. The obstetrician who stood by the bedside waiting for the child to die, was nearly, if not quite, as guilty as he who took the life of the child.—*Med. Record*, March 30, 1878.

Examination of Lunatics. Dr. E. C. Mann, of New York, in a paper read before the New York Neurological Society, published in great part in the *Journal of Nervous and Mental Diseases*, January, 1878, says: A great many cases are on the border line which separates sanity from insanity, and it often requires the nicest discrimination to determine whether such a patient has passed this border line. The writer would suggest a series of eight cases, which, if adopted by jurists in criminal questions, would prove a most efficient and just test as to the existence of insanity in any given case, viz.:

1. Have the prisoner's volitions, impulses or acts been determined or influenced at all by insanity, and are his mental functions—thought, feeling and action—so deranged, either together or separately, as to incapacitate him for the relations of life?

2. Does the prisoner come of a stock whose nervous constitution has been vitiated by some defect or ailment calculated to impair its efficiency or derange its operations?

3. Has the prisoner been noticed to display mental infirmities or peculiarities which were due either to hereditary transmission or present mental derangement?

4. Has the prisoner the ability to control mental action, or has he not sufficient mental power to control the sudden impulses of his disordered mind, and does he act under the blind influence of evil impulses which he can neither regulate nor control?

5. Has the act been influenced *at all* by hereditary taint which has become intensified, so that the morbid element has become quickened into overpowering activity, and so that the moral senses have been overcome by the superior force derived from disease?

6. Was the act affected by, or the product of insane delusion?

7. Was the act performed without adequate incentive or motive?

8. Does the prisoner manifest excitement or depression, moody, difficult temper, extraordinary proneness to jealousy and suspicion, a habit of unseasonably disregarding ordinary ways, customs and observances, an habitual extravagance of thought and feeling, an inability to appreciate nice, moral dis-

tinctions, and finally, does he give way to gusts of passion and reckless indulgence of appetite?

Some, or all of these are found, generally, in connection with transmitted mental infirmity. It may be argued that these mental defects signify not mental unsoundness, but human imperfection. Certainly if we take these manifestations, any one of them singly and alone, we cannot claim such a one as invariably an indication of insanity; but, on the other hand, under certain circumstances, each one of them may be an unmistakable sign of insanity, or rather of a morbid cerebral state, which may readily lapse into insanity. The disappointments and calamities of life obviously act with greater effect upon an unstable mental organization—these causes of disturbance meeting with a powerful, co-operating cause in the constitutional predisposition. Sometimes a crime, even when there have been no previous symptoms to indicate disease, marks the period when an insane tendency has passed into actual insanity—when a weak organ has given way under the strain put upon it. There is a class of persons with a peculiar nervous temperament, who inhabit the border land between crime and insanity, one portion of which exhibit some insanity, but more of vice: and the other portion of which exhibit some vice, but a preponderance of insanity. It is very difficult to form a just estimate of the moral responsibility of such persons, especially when we reflect upon the fact that moral feeling is a function of organization, and is as essentially dependent upon the integrity of that part of the nervous system which ministers to its manifestations, as in any other display of mental function. The writer has met with cases in which, as a result of parental insanity, there has been a seemingly complete absence of moral sense and feeling in the offspring, and this has been a true congenital deprivation, or a moral imbecility, so to speak; of course, such children can hardly fail to become criminals. In this connection it is interesting to note that moral degeneracy often follows as a sequence upon disease or injury to the brain. A severe attack of insanity sometimes produces the same effect, the intellectual faculties remaining as acute as ever, while the moral sense becomes obliterated.

Croup—Tracheotomy.—Dr. David W. Cheever, Professor of Clinical Surgery in Harvard University, in a Clinical Lecture in the *Boston Medical and Surgical Journal*, March 28, 1878, reports the following case: This little child, four years of age, has just been brought into the hospital by his parents

and attending physician. He has croup, which came on gradually three days ago. There has been but little fever and no convulsive coughing. The child lost his voice yesterday, and as yet is but little exhausted by the disease. The face is sub-livid, but the nails are pink. Respiration begins to be difficult. There is considerable retraction of the lower ribs in breathing; the intercostal spaces are drawn in, and at the ensiform cartilage you see a deep pit with every inspiration. Both inspiration and expiration are noisy, wheezing and rough. These signs are characteristic of an obstruction in the larynx.

The patient was brought to us for operative treatment, and I shall perform tracheotomy at once. In these cases the operation is almost always deferred until too late. If tracheotomy were done early, when the distress in respiration first became evident, more lives would be saved.

We first put the child under ether. In uncovering the throat I notice that with each expiration the thymus gland and loose tissue of the anterior mediastinum bulge up above the sternal notch. We should be careful to avoid this spot in making the incision. In a short-necked child, this is sometimes difficult, for, if we can, we have to keep between the thyroid gland above and the thymus gland below. If we cut too near the sternum we endanger the horizontal veins, which are very large and constitute the innominata. The trachea, too, lies deeper near the sternum than it does higher up.

After many trials of dilators in stretching open the sides of the cut trachea, I have latterly abandoned them, and prefer two short, sharp tenacula on long handles, such as are used in operations on the palate. Making an incision in the middle line, and, if possible, avoiding the thyroid veins, we dissect down nearly to the child's trachea. Now insert one hook into the left side of the trachea, parallel to it, and with the point directed upward; then insert a second hook into the right side of the trachea in the same way; give the left hook to your assistant to hold, take the other yourself; draw the trachea forcibly upward; plunge in your knife, and, cutting upward, divide three or four tracheal rings. Still drawing on the hooks, you open the sides of the incision and insert the tubes without difficulty. In this case as the knife opens the trachea there is a forcible gush of thick mucus with some distinct croupous membrane. There is but little hæmorrhage. We now insert the tracheal tube, and keep it in place by means of tapes passed around the neck.

As our rooms are heated by steam, we have only to tap the

radiator in order to secure a constant discharge of vapor into any room we may select. We thus convert an ordinary chamber into a steam-closet. We shall put this boy into such a room, and so give him a moist atmosphere.

The New Antiseptic Thymol.—The new antiseptic thymol bids fair to entirely supersede carbolic acid—possessing as it does superior antiseptic properties, and being perfectly innocuous. It is the essential ingredients of oil of thyme, prepared by treating it with a strong alkaline solution, or by distilling the seeds of *Phychotis ajowan*, an East Indian plant. Solutions containing one part thymol to 1,000, will completely arrest saccharine fermentation, and only small quantities are necessary to check decomposition. It is now being used in Germany, instead of carbolic acid, in the application of Lister's antiseptic dressings, with marked success. It is only as an external antiseptic that thymol is recommended; its internal use has not answered the expectations which were formed of it.—*Canada Lancet*, April, 1878.

Pain Produced by Chloral Hydrate.—Herbert M. Morgan writes to the *British Medical Journal:* "I have so frequently observed a peculiarity following the use of chloral which I have not yet seen recorded in any medical book or periodical, that I feel sure that it will be interesting for others to describe it. In several cases where I had given chloral hydrate in ordinary doses (generally where it has been continued for several days at least), a feeling of pain is experienced all over the body, sharper than that of chronic rheumatism, and often so sharp as to make the patient beg for relief. In each case I have found no relief obtained until the chloral was discontinued. It seems to me to be a general hyperæsthesia of the cutaneous nerves, but sometimes localized in one particular spot. Tincture of gelseminum gives relief to the pain sooner than other remedies."—*Drug. and Chemist*, Jan., 1878.

Pathology of Concussion of the Brain.—M. Duret has recently brought to the attention of the Société de Biologe the results of some experiments instituted for the purpose of determining the pathology of concussion. These experiments are copied by the *British Medical Journal.* A mere oscillatory disturbance of the encephalon is not a satisfactory explanation of the phenomena observed. The result of M. Duret's experiments leads him to conclude that the phenomena of concussion should be referred to changes in the tension of the cerebro-spinal fluid, and not directly to changes in the pulp itself.

Bicarbonate of Sodium in Burns.—E. J. Pring, Acting Assistant-Surgeon U. S. A., in the *Philadelphia Medical Times*, March 16, says: Not long ago I attended a lady, the right side of whose face was very severely burned with boiling fat. Having made a saturated solution of the bicarbonate, I applied cloths wet with the solution, and kept them moist without removing them. In a very short time the pain was relieved permanently. I continued the application for about twenty hours, and afterwards used simple dressing. The wounds healed quickly. I have used the bicarbonate on several other occasions, and with equally good results.

Pitcherine—A New Stimulant.—The *British Medical Journal* has a long account of a new stimulant, which has been lately described by the papers of Australia. It is called by the natives pitcherine, and is used as we use tobacco, for both smoking and chewing. The effect is that of pleasant exhilaration; when long continued, intense and continuous excitement follows. It is used, when, on long foot-journeys, to invigorate and keep up the strength or excite them to courage in battle; large doses are said to infuriate all the passions. Some of the natives make a plaster of this plant, and place it back of the ears, believing they are influenced by it.

Book Notices, &c.

Spinal Disease and Spinal Curvature; Their Treatment by Suspension and the Use of the Plaster of Paris Bandage. By LEWIS A. SAYRE, M. D., of New York, Professor of Orthopædic Surgery in Bellevue Hospital Medical College, etc. London: Smith, Elder & Co. Philadelphia: J. B. Lippincott & Co., 1878. 12 mo. Pp. 121. (From American Publishers.)

The truths contained in this small book are wonderful. It is not strange that graduates of years ago should manifest some skepticism as to the remarkable results of the treatment of Pott's disease and other diseases of the spinal column which are recorded in this work, until they witness for themselves the application of the plan in some given case. Then how simple it all appears! Everybody has long held that the spinal column should first be straightened, the superincumbent weight of the head and upper portion of the body removed, rest enjoined, with outdoor exercise, etc. Here we have all the conditions met—and even more than could be expected; for while the spinal column is thus supported and placed at rest, the patient has, at the same time, all the benefits which

active outdoor exercise and play can bring. It is strange that the discovery of so common-sense a plan of treatment should have been reserved for this age. To the genius of Dr. Sayre, the profession and the unhappy subjects of these deformities or diseases especially, will ever be indebted for the grandest surgical discovery of this century.

Our readers are already familiar with the views of Dr. Sayre on the subject spoken of. An examination of the record of his cases convinces him that Pott's disease is the result of injury rather than of a constitutional disease or cachexia, as was formerly believed. His plan of treatment has also been time and again described in articles in medical journals, and by journal reporters, of his clinical lectures.

But notwithstanding these publications and the multitude of living witnesses on this side of the Atlantic as to the success of the treatment, some of the Europeans were still skeptical. They had not tried it, and had seen nothing like it. This skepticism led Dr. Sayre to accept an informal invitation of some friends in England to visit that country in 1877, and there demonstrate what he had proven in this country. The enthusiasm manifested by the English physicians and surgeons as they accompanied him from hospital to hospital, to see him apply his treatment, has been faintly described by our late lamented correspondent from Liverpool, Dr. Didama. We cannot refrain from joining others in thanking the distinguished author of this book, for the self-sacrificing devotion to the cause of surgical science and of humanity which induced him to make this trip; and also for yielding to the importunities of the British physicians and surgeons to leave there a record of his views of the pathology, symptoms, etc., of the diseases named in the title of the book under notice, as well as a graphic description of his plans of treatment.

We have no criticisms to pass upon the manual before us. It is written in that plain, unpretentious style which characterizes all of the writings of Dr. Sayre. It is exactly what the practitioner wants who has a case of Pott's disease or one of spinal curvature. Scarcely less valuable than the words of description themselves are the generally well executed photographs and wood cuts which illustrate the text. The positions of the operator and patient are given, and they bring at a glance of the eye that information of some of the details which the best selected words cannot so well impart.

Why it is that, in this day of rapid advance, men cannot criticize the writings and the approved practice of others more distinguished than the critics themselves, without attempting to detract from the person of the author by low ridicule—of

that which is purely incidental to the whole, we cannot conceive. Whether the critic, under such circumstances, be moved thus to write by biting envy and jealousy, or by other motives, he suffers more in general estimation than him who is thus caricatured without cause. For ourselves, we are glad so many of these pictures are *photographed;* for sometimes wood cuts of cases operated on by some surgeons, like the text, more accurately describe the result *desired* than the result secured.

The Science and Art of Surgery, Being a Treatise on Surgical Injuries, Diseases and Operations. By JOHN ERIC ERICHSEN, F. R. S., F. R. C. S., Surgeon Extraordinary to her Majesty, the Queen; Member of Council and of the Court of Examiners of the Royal College of Surgeons; Emeritus Professor of Surgery and of Clinical Surgery in University College, etc., etc. Revised by the Author, from the Seventh and Enlarged English Edition. Illustrated with 862 Engravings on Wood. Two volumes. 8 vo. Pp. 1936. (For sale by Messrs. West, Johnston & Co., Richmond. Price in Cloth, $10; Leather, $12.)

It would not be necessary to do more than give the title of this justly popular practical work were it not our duty, in noticing this edition, as compared with the sixth, to state that the present edition is a *thorough revision* of the former one. "Much new and important matter has been added," which additions have been widely distributed through the various subjects treated, and, on many pages, entirely new matter takes the place of the old, which having become obsolete, has been cancelled. Besides this revision of the text, 150 new wood cut illustrations have been added, and many of the old ones have been re-drawn in an improved style.

We have not the space to notice more than one or two points in these volumes.

The subject of anæsthetics receives the attention of 14 pages. Prof. Erichsen begins with the common error of stating that it was not until 1844 that surgical anæsthesia was discovered in this country by Horace Wells. Dr. Sims has incontrovertibly established (*Virginia Medical Monthly*, May, 1877) that the discovery was made by Dr. Crawford W. Long, now of Athens, Georgia, in 1842, and that the agent used was sulphuric ether. As to the mode of administering chloroform in particular, we observe that our author, who seems to favor this agent as the one for general use, is extremely particular in defining a great many particulars which the practitioners of the Southern States of America regard as of secondary importance, while he fails to make prominent those

particulars about which we of the South are extremely careful, viz.: prefacing the treatment with a stimulant dose of whiskey or brandy; using an open or well ventilated room, with door and window open if weather is not too cold; loosening all the clothes around the neck, body and limbs; and the absolutely horizontal position of the body—the head being even preferably lower than any other portion of the body, and certainly without a pillow under it. Prof. Erichsen, however, simply quotes Clover as advising that, while the patient is under the influence of chloroform, he should not be "raised into the erect or sitting posture." We wish to emphasize that the patient should not be raised at all. In speaking of the comparative applicability of chloroform and ether, our author should have mentioned more prominently the inflammability of ether, which renders it unsafe to administer at night when lamp or gas-light has to be used in the room. Want of proper caution in this matter has not only risked personal safety, but has absolutely caused death in several recorded instances. Prof. Erichsen only alludes to this point incidentally when he prefers chloroform "in all those cases in which the galvanic cautery is used in the neighborhood of the mouth or air passages; the vapor of ether under these circumstances being liable to ignite with explosive violence, as I have seen happen."

But by far the most unfortunate omission in this whole chapter, occurs in the section on the treatment of the effects arising from an overdose of anæsthetics. While all the important recommendations of older text-books are given, and approving reference is made to the suggestion of the illustrious Dabney, of our own State, as to the use of amyl-nitrite as an antidote to chloroform-poisoning, which has since been practically tested and found efficient in the human subject, still we are surprised that no mention is made of what is commonly known as the "Nélaton Method"—that of inversion of the body, so as to let the head hang down while the tongue is drawn forward so as not to interfere with the breathing. This method, since its introduction into practice only two or three years ago, has resulted already in saving many lives, and so many publications of cases have been made, both in foreign and home journals, illustrative of its incalculable value, that we deeply regret to find this sad omission in this standard work.

We have fully occupied the space that we had allotted to ourselves for the notice of these volumes. We can merely glance at one or two other items. In these additional remarks,

we shall simply refer to some of the advances made in America—especially by Southern surgeons—which are not even alluded to in this work.

In the extensive chapter on Herniæ, under the section on Operations, we find mention of the old plans of Wutzer and of Wood. Not a word is said of the operation for the radical cure of hernia, devised some years ago by Prof. Greensville Dowell, of Galveston, Texas, and practised with a most remarkable success, both by him and others. His book on the subject was published by Dr. D. G. Brinton, of Philadelphia, in 1877. Since then, he and others have many times performed his operation with a percentage of cures that far exceeds the recorded success of either Wutzer or Wood or other originators of a plan of treatment.

In the treatment of piles, Dr. G. Wm. Semple, of Hampton, Va., published in this journal his remarkable experience with injections of teaspoonful doses of fluid extract of ergot into the rectum, and allowing it to be retained. The value of this treatment was at once put to a general practical test, and found so valuable, that practitioners in Germany and Austria, etc., as well as in this country, began to make their favorable reports on the subject. The testimony of all these reports go to show that in a large majority of cases, this simple method will completely cure the patient without instrumental interference.

But we would do great injustice to the distinguished author, misrepresent our own opinions, and mislead the reader of this notice, were we simply to point out these as some of the important omissions in any thoroughly revised book on practical surgery, without referring in general terms, at least, to the excellences of the work. The omissions we have named, and others that might be stated, are very natural in an English publication, since even to this day it is not customary for European authors to take American journals—especially those published in the Southern States—where so many valuable practices and suggestions have originated, to be fathered at a subsequent day by foreign authors. Excepting, then, such omissions, etc., which are common to every European publication, this work does contain more of valuable information for the practical surgeon than any one of the generally known surgical text-books published in Europe. Druitt's work is too much of a surgical dictionary; Holmes' volume does not treat of a sufficient range of subjects for the general practitioner; Holmes' *System of Surgery* is not only now nearly out of date because of the rapid advances that

have been made within the past decade, but is too bulky and expensive for him who can spare but a small sum annually to build up a general medical library. Even the works of our own loved countrymen—Gross and Hamilton—need revision to bring them thoroughly up to the demand of the times. In this state of things, and just at this time, there is no work that we more unreservedly commend to the favor of practitioners than these excellent volumes of Prof. Erichsen.

The Puerperal Diseases. Clinical Lectures delivered at Bellevue Hospital. By FORDYCE BARKER, M. D., Clinical Professor of Midwifery and the Diseases of Women, in the Bellevue Hospital Medical College, etc., etc. Fourth Edition. New York: D. Appleton & Co., 1878. 8 vo. Pp. 526. Price, in cloth, $5; in sheep, $6. (From the Publishers.)

On examining this work, we do not see where a single alteration has been made in the text of the third edition of 1874. Even the same bad type of the letter *n* which occurred at the bottom of page 50 in the first edition occurs also in this fourth edition. This and other indications show that no change has been made in the text of the first edition. Yet, in view of the fact, that this is, in reality, but a reprint of the former editions, the circumstance that a fourth edition is now demanded only shows how popular is the work. Indeed, with its several imperfections, it is still so practical in the matters of which it treats—so useful to everybody who has a general practice—that the physician cannot well do without it. It is unquestionably the superior of Winckel's work, which latter also is a valuable practical volume.

Dr. Barker's book is too well known to the practitioners of the country to require further notice. They who have former editions need not buy this; but those practitioners who are without the book, and have not had it, should lose no time in procuring a copy. A ready sale of this edition may induce the eminent author to make a thorough revision at an early day, and add some valuable materials that have accumulated in the journals since 1874.

Contributions to Operative Surgery and Surgical Pathology. By J. M. CARNOCHAN, M. D., Formerly Professor of Surgery in the New York Medical College; Surgeon-in-Chief to the State Emigrant's Hospital, 1850–1871, etc. With Illustrations drawn from Nature. New York: Harper & Bros., 1878. Royal quarto. Pp. 48. Price, 75 cents. (For sale by West, Johnston & Co., Richmond.)

This elegant publication constitutes Part III of a work to

be completed in ten quarterly-issued parts, and which may then be bound into one volume—the first of a series. Parts I and II contained an introductory address on the Study of Science; then followed reports of cases of Elephantiasis Arabum successfully treated by ligating the supplying artery; and then some remarks were made on the Ligation on the Common Trunk of the Femoral Artery for the arrest of hæmorrhages from arteries in the lower extremities, etc. These two Parts were published under one cover and is sold at $1.

Part III, which is now before us, contains the report of a case of Amputation of the entire Lower Jaw for Ostititis, Necrosis and Caries, with Remarks on the Operation itself. Another case is given of Amputation of the entire Lower Jaw for Osteo-Fibroid Tumor *a deux temps*. The last pages of this Part commence a most interesting article on Shock and Collapse, and the Primary Treatment of Injuries, including the Consideration of the Time of Election for Capital Operations required after Extensive Lesions. This Chapter will be completed in Part IV, and as we are promised by the publishers that subjects excluded for want of space, and not treated of in accordance with the order stated in the Table Contents, will be taken up in succeeding Numbers, we shall wait with anxiety the issue of Part IV, which we suppose will contain the Chapter on Pott's disease, etc., a subject just now of the greatest interest.

Landmarks: Medical and Surgical. By LUTHER HOLDEN, F. R. C. S., Vice President and Member of the Court of Examiners of the Royal College of Surgeons of England; Surgeon to Saint Bartholomew's and the Foundling Hospitals. (From the Second English Edition.) Philadelphia: Henry C. Lea, 1878. 12 mo., Pp. 128. (For sale by Messrs. West, Johnston & Co., Richmond.)

The author of this work is greatly at fault, we think, in not introducing plates to illustrate what otherwise he so admirably describes. Just as Sir Charles Bell "was in the habit of introducing, from time to time, a powerful muscular fellow to his class, 'in order to show how much of the structure of the body, such as articulations and the muscles, might be learned without actual dissection,'" so an accurately drawn picture or two, properly shaded and having dotted lines, would greatly have aided the reader. As it is, this handbook is the geography without the map.

But with this imperfection, as we deem it (about which there may be diversity of opinion), these *Landmarks* are sim-

ply invaluable. We often have occasion in clinical teaching, and more especially in practice, to know the surface marks, such as lines, eminences, depressions upon the surface of the body, which are guides to, or indications of deeper seated parts. This book tells all these things. "The leading landmarks which help practical surgeons in their daily work," are here defined in as compact form as words will allow; while "those relating to the chest and abdomen have been ascertained with as much precision as natural variations permit, by needles introduced in various directions."

If the work has another fault than that of an intentional omission of drawings by the author, it is, that it has no index to aid in ready reference. Even with these omissions, we cannot see how any practitioner, especially of surgery, can well afford to be without these *Landmarks*.

Proceedings of the Louisiana State Medical Association. The Constitution and By-Laws (provisionally adopted). Code of Ethics, etc. New Orleans, 1878. Pp. 36.

Seventy-nine practitioners, representing fifteen parishes, attended this organization meeting—a very encouraging fact. The places of meeting are to be chosen by ballot. This is the best way. If doctors can't come to the meetings, carry the meetings of the Association to them. Dr. J. C. Egan, of Caddo, was elected President. Dr. Thomas Layton, of New Orleans, was elected Recording Secretary. Next annual meeting will convene in New Orleans, on second Wednesday in April, 1879.

Note on Hydrobromic Acid. By EDWARD R. SQUIBB, M. D., of Brooklyn. Republished from the "Transactions of the Medical Society of the State of New York for 1878." Pp. 8.

This pamphlet calls attention to varying proportions and formulæ used by different manufacturers, and proposes a definite standard and working formula.

Treatment of Chronic Eczema by a Glycerole of the Subacetate of Lead. Second edition. By BALMANO SQUIRE, M. B., Lond., Surgeon to British Hospital for Diseases of the Skin. London: J. & A. Churchill. Pp. 43. Price one shilling. (From Author.)

This pamphlet calls attention to the value of the preparation of lead named for chronic eczema. The author claims that it has met with general approval. The formula is acetate of lead, 5; litharge, 3½; glycerin, 20. Heat for half an

hour in a boiling glycerin bath, constantly stirring, and filter in a gas oven. The result is a colorless, viscid liquid.

Exposition of Facts. By A. Y. P. GARNETT, M. D., Washington, D. C.

A very just censure of Dr. J. H. Baxter, United States Army, for conduct unbecoming a medical man holding the high position he does, if there be no other explanation than is given in the pamphlet before us.

Editorial.

Dr. Robert Battey's Engraving and Biographical Sketch appear in this number. We take great pleasure in thus complying with a wish of our subscribers who are anxious to see the likeness, and to know something of the private history of this gifted medical man. He has long lived in the affections and professional esteem of those who have known him personally. But now that his bold suggestions have become accomplished successes, and that these achievements have become generally known to the medical world, there is a general desire to become more thoroughly acquainted with the now illustrious author.

An examination of the sketch so faithfully recorded by Prof. Joseph A. Eve, M. D., reminds us of the oft-repeated lesson, but the one that is too frequently lost sight of by the young graduate in medicine, viz., that earnest, assiduous study and labor, directed by good judgment, will in good season lead to some valuable discovery which will bring with it the reward of a deserved eminence in the profession.

Professor Julian J. Chisolm, M. D., Baltimore, Md., is the next one of our subscribers and contributors whose engraving and biographical sketch we shall publish. This announcement will be gladly received by the numerous friends all over the country of this distinguished specialist. A more definite statement as to the precise issue next fall or winter, in which this publication will be made, will be hereafter announced.

Dr. Horatio R. Storer, the eminent gynæcologist of Boston, has retired from active practice, moved to Newport, R. I., and is contributing to the sanitary reform of his new home by contributing some excellent papers through the *Newport Daily News.*

Give Summaries to Articles. "The Medical Press is very prolific at this time of exceellent articles, and very often after these have appeared in some standard journal, pamphlet copies are issued and distributed. Such pamphlets in large numbers are constantly received by the editors of the Medical Press, and these gentlemen would be glad to notice them, but, as a rule, this is difficult and involves much labor, for the simple reason that the authors have failed to adopt a device not only simple and easy of execution, but one which would be welcome to every reader, viz., the closing of the article by giving a summary of the views or arguments advanced. Most pamphlets would receive far more than the usual recognition of title announcement if this method were adopted." We endorse the above from the *Richmond and Louisville Medical Journal*, March, 1878.

Dr. John P. Wall, one of the most eminent physicians in Florida, has become Associate Editor of the Tampa *Sunland Tribune*. In his new enterprise he is holding up the standard of the profession, and at the same time is educating the people to respect the opinions of educated physicians. Good results will follow such a course.

Professional Tariffs.—The College of Physicians of Philadelphia has recently done a most commendable thing. It has abolished the tariff of charges that was heretofore compulsory upon its members, leaving them hereafter to act more as professional men than as simply tradesmen. A more absurdly false doctrine cannot be found than that "all men are equal," and therefore, as regards doctors, all should charge the same.

The Maryland Medical Journal, we are glad to hear, will be enlarged with the May number, by the addition of thirty-two pages. Articles are promised for early numbers by Professors F. N. Otis, of New York, Roberts Bartholow, of Cincinnati, L. P. Yandell, Jr., of Louisville, Thomas Opie, of Baltimore, and Dr. W. C. Dabney, of Charlottesville. Other distinguished American and European contributors will be announced hereafter by the editors.

The Bickford Knitting Machine Company, 689 Broadway, New York, knits to order all the shirts that Dr. Sayre uses in applying his plaster-jacket. We have also used several in our practice. As these shirts are of peculiar make, and are

essential to success in the operation, it is only necessary to call attention to the address of the house. Mrs. A. M. Lawson is in charge of this department. The suspensory and other bandages knit by this Company are also excellent in design and manufacture.

Medical Graduates in the United States in 1878:

Reported in March number	653
Missouri Medical College, St. Louis	102
St. Louis Medical College	49
Cincinnati College of Medicine	33
College of Physicians and Surgeons, Indianapolis	41
Indiana Medical College	29
Jefferson Medical College, Philadelphia	203
University of Pennsylvania	127
Women's Medical College, Philadelphia	19
Atlanta Medical College	24
Medical Department University of Nashville and Vanderbilt University	90
Rush Medical College, Chicago	129
Chicago Medical College	47
Woman's Hospital Medical College, Chicago	7
Total number of graduates in twenty-one regular Medical Colleges in United States, 1878	1553

Our Advertising Department is unusually full this month. See the *Index to Advertisements*, as indicated on the first cover page. Some doctors keep themselves conversant with new preparations, etc., by reading advertisements only. The *Monthly* always furnishes a goodly number.

The Special Offers of the *Virginia Medical Monthly* for new subscribers will remain open until May 15, 1878.

The Medico-Chirurgical Society of Maryland will convene at the Academy of Music, Baltimore, on Tuesday, April 9th. We accidentally overlooked noticing the time of this meeting in our last issue when compiling the table of society meetings, etc.

Dr. Albert Fairfax, a resident of Fairfax Courthouse, Va., since the war, has been appointed resident physician at Ore Knob mines, Ashe county, N. C., from forty applicants. The office of the Ore Company is in Baltimore, where the appointment was made.—*Md. Med. Jour.*, April, 1878.

VIRGINIA
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VOLUME V—No. 2. WHOLE NUMBER, 50

RICHMOND, MAY, 1878.

Original Communications.

ART. I.—**A Clinical Surgical Lecture, Delivered at Bellevue Hospital, February 13th, 1878.** By LEWIS A. SAYRE, M. D., Professor of Orthopedic Surgery and Clinical Surgery in Bellevue Hospital Medical College, etc., New York. (Phonographically Reported especially for the *Virginia Medical Monthly*. By M. JOSIAH ROBERTS, M. D., New York.)

CASE I.—**Spondylitis of Cervical Vertebræ.**—This is the little girl whom you saw last Wednesday. She had been sick for two years, and had not walked for two months and a half. It is a case of spondylitis, or Pott's disease, affecting the cervical vertebræ. You remember we placed a plaster-jacket and jury-mast upon her last Wednesday; but after the lecture, she complained of its uncomfortableness, which was sufficient proof that we did not do our work well. The jury-mast was placed a little too low down, so that its arch pressed upon the projecting portion of the spine. Dr. Vanderpool, the House Surgeon, at once re-applied the jacket, raising the jury-mast a little, and now, as you see, she is able to walk without pain, though she is yet very weak.

This patient was brought in to illustrate the fact that mistakes in treatment are liable to be made even by those who have had considerable experience with similar cases, a fact which should serve as a warning to us when we are tempted for want of time, or other reasons, to dispatch patients too hastily. Whenever I make a mistake of this kind I learn something by it, and whenever it occurs in the treatment of my clinical patients, I bring them before you again, that we may learn a lesson together.

CASE II.—**Chronic Inflammation of the Knee-Joint—Amputation at the Joint—Mark's Artificial Leg—Hudson's Extensor.**—The patient who is now presented was first brought to this clinic a year ago. She has suffered since childhood from a chronic inflammation of the knee-joint. When only a few months of age, she received an injury to the knee which gave rise to an inflammation that continued up to one year ago, at which time she was eleven years old. At that time, her leg was luxated backwards behind the condyles of the femur and partially rotated outward. The deformity was due to reflex muscular contraction excited by the inflammation in the knee-joint. Numerous sinuses lead to dead bone, and from the exhausted condition of the patient, due to excessive discharges, no relief could be given except by exsection of the knee-joint or amputation. Exsection was out of the question, from the fact that the leg and foot had not been sufficiently developed to give the limb length enough to be of use, and therefore amputation was the only thing to be done. The question then came up, Whether the amputation should be at the joint, or in the shaft of the femur? Although several sinuses lead to necrosed bone in different portions of the femur, and one to the superficial portion of the patella, yet I decided to amputate at the knee-joint in preference to going through the shaft of the femur. From the exhausted condition of the child, I feared that section through the shaft would result in osteo-myelitis. The superficial necrosis of the femur, it was thought, could be successfully treated by the use of drainage tubes. I decided to perform Dr. Stephen Smith's operation, which, for the knee-joint, is preferable to all other operations. It leaves the cicatrix entirely behind, while the patella, *in situ*, acts as a firm basis of support for walking. The result in this case, as you see, justifies my decision.

Mr. Marks has been so kind as to present this little girl with one of his artificial legs, so that she is now able to walk about with freedom and comfort. There is one deficiency with the leg which she wears—she cannot extend it; there is nothing to take the place of the quadriceps extensor muscle. To obviate this defect, we will have one of Dr. Hudson's ex-

tensors applied to the leg, which consists of an elastic band on either side of the leg plying over a portion of a wheel representing the quarter of a circle.

CASE III.—**Chronic Inflammation of the Knee-Joint, Complicated by Fracture of the Femur.**—This is a case which has been previously presented to you of inflammation of the knee-joint, complicated by a fracture of the femur. There was deformity with fibrous anchylosis, the deformity being partially due to the fracture of the femur at the epiphysis. The fracture occurred when the patient was four years of age, but it was not recognized, owing to the fact that the inflammation which immediately followed involved the knee-joint to such an extent as to direct all attention to the joint. She was treated constitutionally for white swelling of the knee-joint for several years, and finally recovered with her leg flexed at an acute angle and rotated outward, which was her condition, if you remember, at the time of the operation nine weeks ago. At that time, after breaking up the fibrous anchylosis at the knee, we experienced some difficulty in re-fracturing the femur, but fortunately succeeded in breaking it at exactly the point of original fracture, and placing the limb in perfect position. Extention was *immediately* applied, and Dr. Cuddeback, my assistant, dressed the limb with a plaster-of-paris bandage. Sufficient compression was made with a wet sponge over the lower third of the femoral artery to cut off a portion of the supply of blood to the part, as is my usual custom after *brisement forcé* of the knee-joint, thus materially lessening the chances of inflammation. At that time, I told you we would be satisfied if, with the limb in position, we succeeded in getting anchylosis both at the point of fracture and at the joint. No constitutional or irritative fever followed the great violence which we did to the joint, and this I attribute largely to the immobile dressing which was used, and to the partial occlusion of the artery. We removed the dressing three days ago, and found that perfect consolidation had taken place at the point of fracture; fortunately, however, things had not proceeded so far at the joint. We therefore gave it slight passive motion, which has been repeated every day since that time, and now, as you observe, she is capable of

walking without support, and has considerable motion at the knee-joint, which can be materially increased by the faithful administration of the tincture of time and essence of patience, together with elbow grease and palm oil, technically called *massage*. If the pain produced by manipulation in such cases as this, lasts more than twenty-four hours, the manipulation has been too severe or too protracted.

On account of the atrophy which exists in the affected limb, making it a little shorter than the other, it will be requisite to place about two thicknesses of sole-leather upon the bottom of the shoe worn on this foot in order to equalize the length of the two extremities. By so doing she will be able to walk without limping.

CASE IV.—**Double Talipes Equino-Varus with Luxation of Knee.**—Dr. Forest, of this city, has kindly brought a very interesting case of double talipes equino-varus with luxation of the knee. There is paralysis of the posterior muscles; and the quadriceps extensor contracting, bends the knee-joint exactly opposite to the normal direction. The deformity thus resulting resembles in fact, what it was first thought to be, a fracture of the epiphysis of the lower extremity of the femur.

We will seize the limb and bend the knee out in the proper direction. When we attempt to bring the *foot* into its normal position, before the deformity has been completely reduced, the foot becomes white, due to the obstruction to the circulation. If the foot were retained in this position, it would slough; if left alone, it would return to its abnormal position and become more and more crooked. The rule is, after manipulation of the foot, to retain it in a position as nearly normal as possible without interfering with free circulation. For the fixation of the foot, adhesive plaster or sole-leather dipped in cold water may be used. Great stress should be placed upon the thorough and careful manipulation of the deformed foot, to be repeated as often as possible by the attendants, for there is no mechanical appliance which can be substituted that has the adaptability of the human hand. I have now, during the short space of time which the patient has been before you, manipulated both feet to such

an extent that I can place them in very nearly their normal position, where they will be retained to await further manipulation.

Case V.—**Result of a Case of Exsection of the Hip-Joint.** George Brown, the young man now presented to you, is twenty-four years of age. When six years old, he received an injury to his hip from a fall. This gave rise to an inflammation in the hip-joint of a chronic character. Sinuses were formed on the outer and upper portion of the thigh, which discharged freely, and the patient became reduced to a skeleton. I removed the head, neck and trochanter major, and gouged the acetabulum on January 28, 1865, in this room. He was placed in the wire breeches, and removed to his home on the same day of the operation. He has recovered, as you see by his running up and down the steps and walking about the amphitheatre, with almost perfect motion. There is about one-half inch shortening. He is a large, strong and vigorous man, capable of doing a full day's work upon the farm, and has no inconvenience whatever from the limb.

With results like this, and many others almost equal to it, to me it seems nonsense to discuss the advisability of exsection, although only last week a body of learned medical men assembled in this city; and in their discussion of this subject, some of them seriously questioned the propriety of the operation.

Case VI.—**Necrosis and Abscess of the Tibia.**—This man had the lower end of his right tibia removed seven years ago. He has been walking about since that time, but has never completely recovered. In all probability, there is dead bone within. This is one of those cases which Dr. Markoe describes as *progressive sinuous abscess of the bone.* That the pus burrows its way along, is simply due to the fact that the abscess has not been opened at the most dependent point. If the opening be made at the lowest point at first no further burrowing will take place.

In this case we have a pocket which retains the pus, the pus burrowing its way through the tissues. We will now proceed to drill through the bottom of this sac, and place therein a drainage tube, which will prevent the possibility of

the retention of the products of inflammation, until nature has had time to exfoliate the dead bone; in the meantime, the patient can attend to his business without any difficulty whatever. The process of exfoliation may sometimes be hastened materially by the prompt removal of the greater portion of the dead bone, where the necrosis is extensive.

Case VII.—**Necrosis and Chronic Inflammation of the Tibia.**—This man had a portion of his tibia removed twenty-two years ago, but there was a little dead bone left which had given rise to an inflammation of a chronic character. One month ago, his leg measured fifteen inches in circumference; it now measures twelve and a half inches in circumference. I drilled holes through the leg and put in tubing, which was followed by a pretty sharp hæmorrhage. There is now some motion. The great point in the treatment of these cases is to establish free drainage in a downward direction, and thus prevent the retention and absorption of pus. If you have a free external outlet for the pus which is formed within, there is no trouble. Get rid of all of the dead bone if you can by mechanically removing it; if not, get rid of a portion of it, and see that there is free drainage. By probing, I find that there is a good-sized piece of dead bone which could be removed with advantage to the patient, and thus save time and materially hasten the process of exfoliation. The external opening which leads to this dead bone should be dilated with a sponge tent, after which, with the forceps, this large, necrosed portion may be quickly removed. The other portions of dead bone may be easily removed by picking them to pieces with a silver probe. We have now succeeded in drilling a hole through the bone, and after passing this large probe, will draw a drainage tube through the opening thus made, which will afford a free outlet to the pus.

Case VIII.—**Sacro-Iliac Disease—Differential Diagnosis from Hip-Joint Disease.**—I now present you with a case which was sent to me through the kindness of Dr. Hunt, of New Jersey, and which was supposed to be a case for exsection of the hip-joint. Dr. Hunt first saw the patient (colored) two weeks ago, but no satisfactory history of the case has been obtained. All the information which I have been able to ob-

tain has been from the patient himself since his arrival at the hospital. He states that he is eighteen years of age; that two years ago he suffered from what might be called a general rheumatic fever. He has been exposed to wet, but under what conditions and to what extent was not ascertained.

As yet no satisfactory diagnosis has been made, and it is for the purpose of arriving at some definite conclusion in reference to this interesting and obscure case, that I have brought it before you.

When I first saw him three days ago, he was sitting up in bed, and occupied the exact position which a patient in the second stage of hip-joint disease usually occupies; that is, with the leg flexed upon the thigh, the thigh upon the trunk, the foot everted, and the limb *abducted.*

We will now apply Nélaton's test for displacement of the head of the femur, which consists in passing a line from the anterior-superior spinous process of the ilium to the tuberosity of the ischium. A line thus drawn will pass, when there is no displacement, exactly over the apex of the trochanter major, which we find to be the course of the line in this case. Now, if we had a fracture of the neck of the femur, the trochanter would be above this line; if absorption of the neck, head or acetabulum, the trochanter would also be above this line; the leg would be *adducted*, inverted and shortened. The position which the patient occupied when I first saw him, was sitting with his left leg flexed, abducted and rotated outward, which is the position of a limb when the hip-joint is over-distended, as with pus or serum. Further, in hip-joint disease, if the capsule of the joint be not ruptured, you cannot invert the toe, adduct the limb, or extend the thigh, without producing a great deal of pain. But in this case, taking care not to affect parts external to the joint by the motion of the limb, aud to hold the pelvis absolutely still, we can invert the toe, and slowly adduct and extend the limb without causing pain. This would go to show that it was not the hip-joint which was involved, or else that the capsule of the joint has been ruptured, and the effusion into the joint squeezed out. Yet this can hardly be the case, for as we look at the limb, we see that it occupies the position

common to the *second* stage of hip-joint disease. If the capsule of the joint had been ruptured or perforated so as to liberate the pus, the limb would no longer retain its present position, but would assume the position common to the *third* stage of hip-joint disease. Now, the limb can get in this position from muscular contraction, but if the deformity be due to muscular contraction, we can invert the leg and rotate it in, which movements we find can be effected in this case. This fact alone has satisfied me that there is no distention of the joint.

You probably will have observed that in making our examination we have avoided, as far as possible, all sources of irritation and excitement to the patient, for when these patients become irritated, it is almost impossible to do anything with them. As he lies quietly on his couch, we may make some further observations. Our object is to elicit the exact location of the disease. By the application of Nélaton's test line, we have found that the trochanter major is in its normal position. I can crowd the head of the femur firmly into the acetabulum without causing pain. And again, the leg is too long, and its position too good for a carious head of the femur, or carious acetabulum. You will observe that so long as we confine our examination to the hip-joint proper, our manipulations give rise to no pain; but when we crowd the ilii together with only a slight force, great pain is produced. By passing my thumb around the sacro-iliac junction, I elicit severe pain, and upon the inside I find a fullness which is indicative of a sacro-iliac abscess which has burrowed its way along down the thigh. In my examination of the patient three days ago, the pus broke out on the left side at the upper portion of the thigh. Nearly a half pint escaped, and so strongly was it impregnated with the odor of fæcal matter, that at first I took it to be a portion of the contents of the large intestine, but further examination proved this not to be the case. The matter discharged must have lain for a long time in contact with the rectum, and have derived its odor from the fæces through the principle of osmosis. I am happy to state that Dr. Stephen Smith agrees with me as to the probability of this explanatory conjecture.

It is painful to witness the extreme suffering of this man; but to-day he is far more comfortable than when I first examined him.

Many of the symptoms which we have elicited from this patient this afternoon are present in cases of hip-joint disease, but it has been our aim to show you how they are to be differentiated from those of true hip-joint disease. If I make firm pressure over the iliac fossa on the right side I get no pain, but pressure in the same situation on the left side gives rise to extreme pain. Now observe what I am doing. Extension of the femur gives the patient ease; so it does in hip disease, but you will observe that I am extending the ilium through its attachments to the femur. I am making extension upon the sacro-iliac junction, and that is where the disease exists. As soon as I cease to make extension the patient is in agony, but so long as the extension is applied he is at ease. By placing my left hand over the superior crest of the ilium and pulling with great force, thus drawing the ilium from the sacrum, great relief is afforded the patient. While holding the ilium away from the sacrum, I am crowding the head of the femur firmly into the acetabulum, which gives rise to no pain, and settles the question that there is no disease of the hip-joint.

We have spelt out this case, as it were, and can now easily arrive at a correct diagnosis. We have found in our examination that so long as we do not affect parts external to the hip-joint, our manipulations give rise to no pain. With the sacro-iliac articulation extended, we can make firm compression over the trochanter major without producing pain. When the ilii are crowded together, intense pain is produced. Here, then, we have a clear case of *sacro-iliac disease*, which has gone on to suppuration, and the pus has found its way along down under Poupart's ligament, and come out upon the anterior portion of the thigh.

With reference to the treatment of this case, the first step of essential importance is that a free outlet for the imprisoned pus should be made, and the parts cleansed thoroughly. For this purpose, we will make a free incision along the anterior portion of the thigh where the pus has accumulated, rinse

the cavity out with carbolic wash, fill it with Peruvian balsam, and stuff in some oakum. Had the abscess opened posteriorly over the sacro-iliac articulation, I would have made a free incision down to the joint, and laid open fully any sinuses leading to dead bone, removing at the same time any accessible portions of necrosed bony tissue. By placing this patient in the upright posture, the chances for drainage will be greatly improved, and the antiseptic applications which we have made will tend to bring about a more healthy state of affairs.

In the treatment of these cases of sacro-iliac disease, I have recommended extension. During the time when the patient is in the erect posture, extension is to be made by increasing the thickness of the sole of the shoe which is worn on the foot of the unaffected side to such an extent as will permit the foot of the affected side to swing clear of the ground, and thus extension upon the sacro-iliac articulation will be made by the weight of the limb on the affected side. The extending force may be further increased by running lead into the sole of the shoe on the affected side. This method of extension is intended only to be used while the patient is exercising on his crutches. At night, and whenever resting in the horizontal posture, extension is to be kept up by a weight and pulley over the foot of the bed. The foot of the bed is to be raised a few inches higher than the head of the bed, by means of which the body acts as a counter-extending force. In my work on *Orthopædic Surgery*, I have probably not been as explicit with reference to this part of the treatment as I should have been, and therefore some persons have imagined that I intended to keep the patient in the erect posture day and night until recovery took place. But I there stated that the same principle of treatment has to be carried out in dealing with sacro-iliac disease as was used in the treatment of hip-joint disease, which implied extension and counter-extension by means of a weight and pulley over the foot of the bed whenever the patient was lying down. However, I have not been understood, for Dr. McGuire, in the *Virginia Medical Monthly* for January, 1878, has thus misunderstood me. The abscess of the anterior portion of the thigh is now

opened freely, and a large amount of very offensive pus with a distinct fæcal odor is escaping.

I have just made out another important point in this case. By introducing my finger through the incision which has been made to liberate the pus, I can pass it up and about the capsule of the joint which I find to be unruptured. This confirms our exclusion of the hip-joint from disease.

We now inject the cavity with carbolized water, and having thoroughly washed it out, fill it with Peruvian balsam. We elevate the limb, so that the disinfecting balsam may come freely in contact with all parts internally. We will stuff in some oakum, cover the part with oil silk, and over this apply a roller bandage. Extension must be made as we have already suggested. The patient should have a pair of crutches, so that he can get out into the open air and sunlight. He should have a sustaining diet.

ART. II.—**Paralysis of the Facial Nerve (Bell's Paralysis), with some Remarks on its Anatomy and Physiology.** By JOHN J. CALDWELL, M. D., Baltimore, Md.

This nerve, the seventh pair, leaves the side of the medulla oblongata, just behind the pons varolii. Its fibres are traced to a collection of gray matter in the upper part of the medulla, continuous with that from which the roots of the sixth pair originate. After leaving the side of the medulla, it passes onward through the petrous portion of the temporal bone, emerges at the stylo-mastoid foramen, bends round beneath the external ear, and passes forward through the substance of the parotid gland, forming a plexus, called the "pes anserinus," by the abundant inosculation of its different branches. It then sends its filaments forward, in a diverging course, and is finally distributed to the muscles of the external ear, to the frontalis and superciliaris muscles, to the orbicularis oculi, the compressors and dilators of the nares, the orbicularis oris, and to the elevators and depressors of the lips—that is, to the superficial muscles of the face, which are concerned in the production of expression.

The facial is the motor nerve of the face. It has nothing

to do with transmitting sensitive impressions, since it has been frequently shown that after section of the fifth pair, the facial remaining entire, the sensibility of the face is completely lost; so that the integument may be cut, pricked, pierced or lacerated, without any sign of pain being exhibited by the animal. The facial, therefore, does not transmit sensation from these parts; and its division, which was formerly resorted to in cases of tic douloureux, is accordingly altogether incapable of relieving neuralgic pains.

This nerve, however, is directly connected with muscular action, since mechanical or galvanic irritation of its fibres produces convulsive twitching in the ears, nostrils, lips and cheeks. (Dalton).

According to Dalton, the division of the facial in one of the lower animals (such as the cat), just after its emergence from the stylo-mastoid foramen, will result in complete muscular paralysis of those parts to which the nerve is distributed, while the power of sensation remains unimpaired. There is incapability of moving the ear, which maintains a rigid position. There is also incapacity of closing the eyelid on account of paralysis of the orbicularis oculi, and the lids consequently remain open, even when the other eye is closed, during sleep or in the act of winking. If the conjunctivæ be touched, there is an immediate appreciation of it; the eyeball is drawn partially backward into the socket by the action of the recti muscles.

Directly opposite effects are produced upon the eyelids by paralysis of the oculo-motorius nerve, and by that of the facial. In the former instance, owing to the paralysis of the levator palpebræ superioris, the eye is always partially closed; in the latter, owing to paralysis of the orbicularis, it is always partially open. There is also a suspension of the movements of the nerve on the side of the injury, and a depression of the angles of the mouth on the same side.

The phenomena of the division of the facial nerve differ in various animals; for example, in the rabbit, the ear, upon the affected side, droops, and its movements are beyond the control of the animal. In the horse (Bernard), the division of the facial nerve eventuates in death by suffocation, on ac-

count of the animal breathing exclusively through the nostrils.

In the human subject the facial nerve is, from various causes, occasionally paralyzed on one side. This effect is known as "facial paralysis," in which there is an entire absence of expression on the affected side of the face, the lower portion of which is drawn to the opposite side by the force of the unaffected antagonistic muscles. In facial paralysis, the principal inconvenience depends upon labial muscular action and the muscles about the cheek; owing to the paralysis of the buccinator muscle, which receives its motor filaments from the facial nerve, fluids, in drinking, escape at the corner of the mouth, and, measureably, food, in the act of mastication.

The fact that animals show evidences of painful sensations, when the branches of the facial are irritated, indicates that these filaments have a certain degree of sensibility, though the facial may be regarded only as a motor nerve.

"Longet has shown by an extremely ingenious mode of experiment, that the sensibility of the branches of the facial does not depend on any sensitive fibres of their own, but upon those which they derive *from inosculation with the fifth pair.* The general conclusion, therefore, is, that a certain degree of sensibility is communicated to the branches of the facial by filaments derived from the fifth pair." The above facts, says Dalton, "account for the peculiar circumstance that, in cases of tic-douloureux, the spasmodic pain sometimes follows exactly the course of the facial nerve, viz.: from behind the ear forward upon the side of the face; and yet the section of this nerve does not put an end to the neuralgia, but only causes paralysis of the facial muscles."

The foregoing, or *facial paralysis*, is often known as *Bell's paralysis*, on account of its real nature having been first clearly pointed out by Sir Charles Bell. The paralysis of the occipito-frontalis, and of the corrugator supercilii, prevents the raising of the eyebrows, or frowning, and obliterates all wrinkles from the brow. As Romberg facetiously remarks, "there is no better cosmetic for elderly ladies than facial paralysis."

"Facial paralysis," writes Hammond, "is distinguished from glosso-labio-laryngeal paralysis, by the facts that in the latter the symptoms affect only the lower part of the face, and that they are accompanied by paralysis of the tongue and of the muscles of deglutition. From the facial paralysis of hemiplegia, it is diagnosticated by the marked circumstance that, in the latter disorder, the patient can close the eye, while in the former, it remains wide open. There are no other affections with which facial paralysis can be confounded, if the slightest attention be given to its symptoms."

According to Althaus, most cases of facial palsy are due to the influence of damp and cold. A rheumatic effusion takes place into the cellular tissue of the face, by which the peripheral branches of the portio-dura are compressed, and their functions more or less inhibited.

Cases which occur in children or young persons, and where the quantity of lymph effused is not very great, may get well spontaneously; but in adults, or where a large effusion has taken place, the palsy only yields to appropriate treatment. Where all the muscles of the face are equally affected, the nerve is, as a rule, compressed by an effusion in the Fallopian canal. In slight cases of this kind, the farado-muscular excitability is sometimes increased and sometimes normal, but only in exceptional cases diminished or lost.

The treatment generally in these cases consists of blistering, and the internal use of iodide of potassium or strychnia. Electricity is, however, much more rapidly successful, especially if the affection be of recent origin. Many cases may be cured by faradisation; but where this fails, and likewise in those cases where farado-muscular contractility is altogether lost, galvanization is preferable. Faradism should be applied to all the paralyzed muscles individually; while, if the constant current be used, the anode is placed over the auriculo-maxillary fossa, and the cathode gently passed over the peripheral branches of the portio-dura. Voltaic alternations are useful; where the external application does not produce much benefit, the negative pole may be applied to the mucous membrane of the cheek, and the positive pole applied externally upon the skin. This sometimes does good, after all other modes of applying electricity have failed.

Cases of rheumatic paralysis of the portio-dura generally yield to treatment, even if they have existed for a very long time. Professor Oré has related a case of eight and a half years duration, which was cured by faradism, and Dr. Russell Reynolds succeeded by the same means in notably improving one of fourteen years standing.

Facial palsy is also observed as a symptom of cerebral hemiplegia, but it then generally appears only in a few muscles of the face, viz.: the *levator alæ nasi et oris*, and the buccinator muscle. In such cases, electro-muscular contractility is either normal or increased to both kinds of current. As this form of facial palsy has a central origin, faradisation is not to be recommended. The palsy frequently disappears spontaneously, but where it continues troublesome some months after the attack, galvanization may be resorted to, and generally proves successful.

In *tumors* of the corpus striatum and crus cerebri, and in diseases of the pons, facial palsy appears combined with paralysis of the third and other cerebral nerves. In these cases, the constant electric current cautiously applied, may relieve certain symptoms of the affection.

Facial palsy ensuing in the course of *locomotor ataxy*, is generally an unfavorable sign, as it shows that the disease is gradually advancing towards the medulla oblongata, and the roots and nuclei of the cerebral nerves. The constant current may, however, under these circumstances, be employed with a fair chance of temporary benefit.

Illustrative Cases.—*Peripheral Paralysis.*—As a boy, I well remember riding to and from school—a distance of several miles—during such a low degree of temperature as to produce peripheral paralysis of the face, which yielded to the usual treatment of friction and heat.

Central Paralysis. This was a case in my early practice of a man who suffered from a tumor at the base of the brain. When this gentleman elevated his face to shave, or for any other purpose, he immediately suffered facial paralysis, or, at this moment, the light of the intellect would vanish from his facial expression. In case of his keeping his face upturned for any length of time, he would suffer insensibility and fall to the floor.

Althaus mentions the case of a barrister, aged 35, having

been exposed to a draught of cold air at a railway station, and became affected with paralysis of the left portio-dura. The physiognomic expression had entirely vanished from that side of the face. The patient was not able to laugh, frown, whistle, or shut his eye, which latter appeared staring and protruded. The angle of the mouth was depressed and drawn upon the opposite side; that of the sound side being higher and drawn towards the ear. The cheek was flabby and loose; and eating and drinking were troublesome. The patient was sent to Althaus by the late Dr. Todd, whom he had consulted six months after the commencement of the affection. Faradomuscular contractility was diminished. The paralyzed muscles were individually faradyzed, with the effect that the patient regained his normal physiognomic expression after a fortnight's treatment.

In conclusion, I will cite the full and interesting case of Bell's paralysis, as given by Isaac Ott, M. D., of Easton, Penn., found in the *Medical and Surgical Reporter*, of Philadelphia, Penn., December 15th, 1877, page 465, viz.:

Mr. A., whilst fishing, and sleeping on the ground, noticed on the following day that he was unable to spit properly; that his eye felt uncomfortable, the lower lid not closing over the eyeball; that the right side of the face was paralyzed, and mastication was difficult. On July 13th, I saw the case and found that the right side of the face was completely paralyzed, the upper lid only moving. I applied the faradic current of a Dubois-Reymond apparatus, but was unable to obtain any muscular contraction. Then a galvanic current, generated by fifteen carbon-zinc cells, was passed in an ascending direction. Opening and closing of this current brought on strong muscular contractions. The anode was placed over the exit of the nerve at the stylo-mastoid foramen, and the cathode on the facial muscles. After the use of the ascending galvanic current, I found that the previous inactive faradic current became active. The same phenomenon was noticed in several of the electrical sèances. Galvanism and faradism every other day, combined with the internal use of potassium iodide, mercury bichloride, and strychnia sulphate, was the continuous treatment.

July 29.—Power over the right lower eyelid returned first; can approximate the orbicularis oris, but is unable to whistle; slight quivering of the buccinator and levator anguli oris.

August 17.—There was progressive increase of power over the muscles up to date. Then the plan suggested by Dr.

Detmold, and recently advocated by Dr. Van Bibber, was tried in conjunction with the previous treatment; that is, a blunt hook was inserted into the right angle of the mouth, and fastened to the ear by an elastic band. Full recovery ensued in the course of a month.

The question arises here, where was the seat of the lesion? As is known, the facial nerve arises from the floor of the fourth ventricle, and the restiform body, enters the internal auditory meatus and aqueduct of Fallopius, where the geniculate ganglion is found, and the petrosal nerves and chorda tympani are given off. The larger petrosal nerve supplies the levator palati and uvular muscles, the smaller petrosal going to the tensor tympani. The chorda tympani administers to the sense of taste, by erecting the papillæ, and by vaso-motor action; it is not a sensory nerve.

The posterior auricular nerve arises from the facial at its exit from the stylo-mastoid foramen, and supplies the retrahens aurem and the occipito-frontalis muscles. Duval states that within the brain-substance the course of the facial to its nucleus is very tortuous, going in five different directions. Erb has called attention to the fact that paralysis of the retrahens aurem shows that the disease is external to the stylo-mastoid foramen. If the sense of taste is weakened, then the seat of lesion is above the branching off of the chorda tympani. If the palate muscles are paralyzed, then the disease must be at the geniculate ganglion, or toward the origin of the facial nerve. Now, in this case, there was no paralysis of the muscles of the palate; hence the lesion is below the geniculate ganglion. There was no loss of taste or impairment of it; hence the disease is not in the aqueduct of Fallopius. Now, the retrahens aurem was paralyzed; hence the lesion must be outside the stylo-mastoid foramen, and quite probably (having been induced by cold) is rheumatic in origin. The exaggerated activity of the auditory sense, seen in some cases, is due, according to Brown-Séquard, to vaso-motor spasm, producing hyperæsthesia. To explain why the ascending galvanic current made the muscles in the same sitting responsive to the faradic current, when previously inactive, the observation of Heidenhain suffices—that is, that an ascending constant current rejuvenates exhausted muscles.

The decision, if the disease is within the aqueductus Fallopii, or external to it, is highly important in the prognosis, as within this canal the recovery is difficult.

Says the learned Draper: This nerve arises from the upper part of the groove between the olivary and restiform bodies, and near the pons varolii. With the auditory nerve, or portio mollis, it constitutes the seventh pair or facial nerve in the nomenclature of Willis, and derives the name portio-dura, under which it sometimes passes, from the density and closeness of its texture. It supplies all the muscles of the face except those of mastication, which are supplied by the fifth nerve, those of the palate, the stapedius, laxator tympani, and tensor tympani; also the muscles of the external ear, and some of those of the tongue.

The facial is a centrifugal nerve. If irritated near its origin, there is no sensation of pain; but subsequently it obtains fibres from other sources, as from the fifth and the pneumogastric. After it has been joined by these, irritation is acutely felt. It is therefore to be regarded as the general motor nerve of the face, influencing the function of respiration through reflex action, but not connected with the function of mastication.

Injury of it produces paralysis of the parts to which it is distributed, as, for example, the orbicularis palpebrarum, causing inflammation of the eye and opacity of the cornea, through inability of that organ to free itself from dust and spread the lachrymal secretion over its surface. In like manner, the sense of hearing may be injured through loss of control over the muscular structures of the ear; and the acuteness of the sense of smell diminished from inability to introduce the air in a strong current; or the sense of taste, if the point of injury be previous to the giving off of the chorda tympani. In paralysis of the facial nerve, the muscles of the face become powerless, and the countenance, therefore, distorted.

Colorless Tincture of Iodine may be extemporaneously prepared by adding a very small quantity of carbolic acid to the ordinary tincture of iodine. Its therapeutic power is not less than the colored tincture.

ART. III.—**Infantile Innutrition.** By C. G. POLK, M. D., Philadelphia, Penn.

A large per cent. of infantile mortality finds its prime factor in disorders of the digestive organs. It is estimated that seventy-five per cent. of all who die under five years of age are destroyed by these disorders. In view of this high death rate, the physician cannot study the source of infantile maladies too attentively, and must hail, as a welcome harbinger, any therapeutical or pathological fact which will enable him to contend more successfully with this class of diseases. The fact is well recognized also that very many of the deteriorated constitutions which are encountered in adults, are the direct consequences of infantile innutrition. A healthy child deprived of adequate and proper nourishment, especially if deprived of sunlight and fresh air, will rapidly become scrofulous. It is almost impossible to find a child, who has been the inmate of an asylum for two years, that is not scrofulous. Evidences of the constitutional deterioration is generally evinced in swelling of the cervical glands and the glands of the eyelids. If the mesenteric glands are involved, mesenteric tuberculosis, of course, rapidly closes the career; but when there is not this termination, the ultimate result is found in pulmonary tuberculosis.

Infantile innutrition, as is well known, arises from a deficient quantity of food. The food may be allowed in sufficient quantity, yet it may prove to be deficient in those nutritive elements which are required for the growth and development of the child; or the food may contain all the requisites for growth and development, yet be so difficult of digestion as to derange the stomach of the child, and thus defeat the process of assimilation.

But what is the proper food for an infant? Every one will answer, its mother's milk. And no one will dissent from this if the milk contains all the normal components of milk, and the mother be in the enjoyment of vigorous health. Too often, however, this condition is not fulfilled. The vital laboratory of the mother is inadequate to the demand; her

own health sinks below the normal standard, and she does not properly nourish her offspring.

The following extract from an editorial note in the *Virginia Medical Monthly* (Feb., 1878, page 789), is very apposite. "Decay of the teeth during pregnancy and lactation are too frequent in practice to require reports of cases to establish the fact. Analyses of the blood in such cases show that the phosphorous principles are in excess in this fluid, while they are diminished or altogether wanting in the urine. The legitimate inference from these and other familiar facts is, that the excess of the phosphorous elements in the blood goes mainly to the fœtus in one instance, or enters into the formation of milk in the other; in either event, the mother suffers for the want of phosphates for her own system. The amount of phosphates essential to a healthy adult is thus diminished, and the mother's system bears the effect of this loss."

In the above quotation, the pathogenesis and ætiology of scrofula are well embodied. Pregnancy and lactation require an increased amount of the phosphates to sustain the cell formation, and supply the materials for the bone and cartilage of the new being. If these be properly supplied for both mother and child, the child is nourished without detriment to its mother's health. The child grows, teeths without difficulty, and passes on to an independent existence, deriving its sustenance independent of her. If, however, during its dependent existence, beginning in the first vivification of the spermatozoa extending through the periods of utero-gestation and lactation, the supply of the phosphorous elements are not sufficient for the nutrition and development of the infant, vital deterioration must ensue.

The blood of the pregnant woman, as Dr. Edwards has truly said, contains an excess of the phosphorous elements, but the deviation is not simply one of quantity; it is also a modification of the formula of the phosphorous elements. In the normal blood we have principally glycero-hypophosphites in their nitrogenous association; while in the blood of the pregnant woman, we find the excess is composed of oleo-nitrogenous hypophosphites and the hypophosphites of calcium and magnesium. These are appropriated by the in-

fant, and enter into direct union with the tissues of the offspring, with but slight chemical modification—the calcium and magnesium salts entering into the composition of bones in the formula of hypophosphites and phosphites.

If these provisions of nature be deficient in the system of the mother—if the drain upon her resources exceed the capacity for supply—her vital condition must become correspondingly depressed, and a debilitated condition of the system is produced. This further reacts upon the health of the child, compounding the morbid phenomena. My experiments on dogs as to the nutritive value of the phosphates, detailed in the *New Orleans Medical and Surgical Journal* (September, 1877), sustain the aphorism of Horsford that, "without phosphoric acid, there is no life"—that food deprived of its phosphorous elements is innutritious, incapable of sustaining life.

It would then seem that the phosphorous elements are indispensable to nutrition, and if the drain of them be excessive or greater than the integrity of the mother's health can sustain, her system is thrown into disorder, and other morbid conditions will be added to the insufficient supply of the phosphorous bases. And if she fails to produce a requisite supply, her offspring is not properly nourished; and further, if the supply be just sufficient for cell evolution and the development of bone, the child may continue healthy until the period of dentition, when a new bill is presented for material for the formation of teeth. If there be no surplus capital, the bill will go to protest; and convulsions, ileo-colitis, cholera infantum or tabes mesenterica may be the damages assessed.

But while the phosphorous elements sustain a very high relation, occupy the position of an essentiality, other constituents of diet are equally important; the nitrogenous and carbonaceous alike are required. While, as Fairfield has said, protagon is the organizer of the nutritive function, the other constituents of our food are the organized, and directly supply the materials out of which tissues are formed, and the temperature of animal life is preserved. The milk of the mother should contain these, also, or the child emaciates and eventually dies of pure starvation. Tonics and phosphorous

compounds, without proper food, will not, in any degree, aid such cases.

But the nitrogenous and carbonaceous constituents may be abundantly present in the food, and yet the digestive organs be incapable of digesting them. This is often the case with infants deprived wholly or in part of the proper source of supply—the mother's breast. The presence of diastase is here all important. Without it, nutrition cannot be maintained; its absence is the determining cause of many cases of ileo-colitis and cholera infantum.

It is a very frequent and very disastrous practice to give children food, for which nature has not provided the requisites for its digestion. Until ptyalin is formed, the carbonaceous and starchy aliments ferment upon the stomach, exciting irritation and producing disaster.

But all these conditions may be fulfilled, and yet the child be ill-nourished. Other conditions are almost as indispensable to the well being of the child as these. Among these are sunlight and pure air. In a damp, dark, and ill-ventilated room, no child can remain healthy, and every child so situated, is seriously imperilled during the period of dentition. Ozone is an important actor in nutrition. The doctrine has been advanced that this is the formula of oxygen, which plays so important a part in vital functions—that in the lungs it is elaborated. The fact has, however, been well demonstrated that it is the great purifier of the air—the decomposer of noxious germs. It is scarcely detectable in the air of the city; and may not its absence account for the ravages of cholera infantum? We well know that children removed from the close, heated, impure air of the city into the country, recover, even in apparently hopeless cases, and that the transition is rapid. The babe in health requires exercise: it tires of one position, as does the adult, and begs to be carried. The neglect to comply with its wish and comfort, I believe, is always detrimental, and interferes with its nutrition. Every clear, mild day, the child should be carried in the open air, and if it be so unfortunate as to have a city home, let it spend as much time as possible in the public squares. The value of cleanliness cannot be overlooked.

If the mother's milk be not adequate to its sustenance, the remedy must be found in correcting the deficiency. By chemical analysis, it can be determined in which of the components there is a deficiency. By improving the digestive functions and correcting any aberration which may exist in them, and by eating such food as will best supply the insufficient constituents, the whole difficulty is often remedied. As a general tonic, no one remedy is superior to Wyeth's syrup of the phosphates of iron, quinia and strychnia, which contains two grains of the iron, one grain of the quinia, and one-sixtieth of a grain of the strychnia salts. As will be noticed, it differs from my formula, in containing but half the amount of strychnia, and this diminution is certainly very desirable during lactation, lest the babe receive too much of this active agent. I usually find where there is no serious disease, that it bestows prompt and permanent benefit. If the lesion is found to reside in deficiency of the carbonaceous constituents of the milk, I employ cod liver oil and extract of malt; but I give them separately, for the very reason that I do not know how to mix them, except by the intervention of some foreign substance. In several instances, in which the babe emaciated rapidly, I have witnessed very salutary results follow these agents. The intelligent physician, however, will best recognize the requirement of each individual case, and regulate exercise, diet, moral and intellectual conditions as well as therapeutical agents. If the defect seems to lie in deficiency of the phosphorous elements, the remedy will be the administration of one of the preparations of the hypophosphites. I have a preference for those isolated from wheat. "Wheat phosphates," made after Tilbury Fox's formula, the extract of wheat of the Blanchard Food Company, and the organic phosphates made by Ashmead, are all worthy of confidence. "Wheat Phosphates" and "Organic Phosphates" are entirely free from all charges of secresy, or being proprietary. The latter is made by a published formula of my own, but I have no financial interest in its manufacture or sale. From a large experience, I can speak of it knowingly, and in terms of praise.

Very often in those cases in which a marked deficiency of

the phosphorous elements occurs, I have found it depending upon a profuse leucorrhœa. To arrest the drain in such a case is of the first importance. The following combination, although a singular one, has proved the most satisfactory of any I ever employed:*

℞ Chammomile flowers.....ℨij.
Tobacco leaf.....ℨj.
Bi-carbon. soda.....ℨij.
Fluid extract peppermint.....ℨiv.
Boiling water.....1 gal.

Make a decoction, adding the fluid extract of peppermint when cold, and use as injection, diluted with its own measure of warm water. When there is relaxation of the vaginal walls, I use with this an infusion of witch-hazel. If there be pain or tenderness over the region of the uterus, I give a pill of ergotin, calomel and ipecac. The discharge being arrested, the trouble is very manageable, and the stomach, unaided by artificial sources, will elaborate sufficient phosphorus from the food.

We now come to the consideration of a more difficult class of cases—those in which we must encounter the disorders of innutrition of children, deprived of their natural pabulum—the mother's milk. Such cases have puzzled me in practice, and have led me to test the various devices and preparations offered. The milk of a single cow, whose calf is nearly the same age of the child, is probably the most common and the most satisfactory remedy. Sometimes no inconvenience is experienced on this diet; the child thrives, and passes easily through the perils of dentition. If such good luck is found, nothing more is needed; but usually the babe teeths hard, does not seem properly nourished, and emaciates. I then employ wheat phosphates held in solution in port wine, and

*The Editor has used this injection in one case of profuse cervical and vaginal leucorrhœa dependent upon a relaxed condition of the mucous membrane, and it acted charmingly, after failure of other common vaginal injections noted in the text-books. But being unable to find the fluid extract of peppermint in any of the drug-stores, he substituted a teaspoonful to a teaspoonful and a half of the *essence* of peppermint as prepared for ordinary flavoring purposes. Four ounces of the fluid extract of peppermint, as reccommended in the prescription, seems to the Editor to be an unnecessarily large proportion, but he has no experience with it. Of course, before using, the decoction should be strained through a sieve or common cotton cloth.

I am sure I have thereby averted more than one case of cholera infantum.

The cases are, however, not uncommon in which the milk of the cow disagrees, or is otherwise objectionable, and I have been compelled to resort to the artificial foods pharmaceutists have produced for this purpose. I, however, suppose that the experience of the profession is with that of Dr. Birch-Hirschfeld as given in Ziemssen's *Cyclopædia*, "that no one of these is applicable to every case; that the individual constitution of the child has to be considered, and that a certain method of treatment does not agree with one child, while another will thrive on it remarkably well." My experience also coincides with his, that Nestle's "Infant Flour" is adapted to a larger number of infants than any of the others. Yet I have frequently failed with this, and derived very excellent results from Loeflund's Infant Food. A preparation of my own, in which I have endeavored to hold in solution in sherry wine all the nutrient principles of the flesh, blood and brain of the cow, I have used in several dozen cases with good results. A pharmaceutical chemist of this city promises to perfect the formula and furnish the preparation to the profession. I believe it will prove a valuable addition to our list of infantile nutrients.

I cannot reiterate too often or too strongly the importance of sunlight and fresh air as items of the first importance. Without them, all other measures will often prove unavailing. With them, half the battle is won. They are favorite remedies of mine. I like them because they are neither patented nor copyrighted, and do not partake of the character of secret nostrums.

2349 Catharine street.

ART. IV.—**An Endemic of Rötheln.** By J. R. GILDERSLEEVE, M. D., Tazewell C. H., Va.

About the 20th of January, 1878, a negro man in my employ came to me for treatment. A cursory examination led me to diagnose rubeola. I gave a dose of sulphate of magnesia. On the next day, the eruption was not so prominent. On the third day, it had entirely disappeared.

A few days afterwards, this man's wife, my cook, presented the same appearance, with like result. Neither stopped work.

On the 27th, I visited a young lady boarder at our High School. There were fever, frequent pulse, suffused eyes, swollen face, headache and nausea, with distinct elevated red spots on the face and neck. Her tongue was covered with slight fur; tip and edges red, and papillæ enlarged. Glands in vicinity of parotid hard and distinct, resembling small encysted tumors. On the second day, the eruption had extended all over the surface to the extremities. Irritation of eyes, nose and mouth with increased secretion.

In a few days a scholar—not a boarder—was affected, but required no treatment, and attended school regularly.

February 4th, another boarder at school was taken.

Feb. 12, two other boarders, and it is still prevailing.

At least fifty children and adults have had the disease up to the present date—the larger number requiring no treatment.

My first case suggested rubeola, but in twenty-four hours, from the mildness of the disorder, I concluded it was roseola. Having been called on to see a number of cases, and being still in doubt as to its nature, I examined, among other works, Dr. J. Lewis Smith's on *Diseases of Children*, and am now fully satisfied that it is rötheln, or German measles.

In the prevailing epidemic, there are seldom any premonitory symptoms. The attack is sudden, sometimes being ushered in with a chill, which is immediately followed by fever and eruption. Fever, when it exists, continues during the period of eruption, and ceases with it—usually on the second or third day. The eruption is first noticed on the face and neck, but in from twelve to twenty-four hours it covers the entire surface, descending to the feet. It disappears on pressure, and is aggravated by heat. Itching is constant and troublesome, sometimes intolerable; bowels are constipated. Suffusion of eyes, œdematous eyelids, and a swollen condition of the face, are frequently noticed before the patient is aware of any existing trouble. My attention has been so often directed to enlarged glands in the neighborhood of the parotid preceding the eruption a day or two, that I have had no hesitancy in diagnosing rötheln, and in only one case have I been in error—*i. e.*, scarlet fever.

With smaller children, it is a trivial affection—not stopping them from school or play. It is also mild in a large majority of cases with no fever. But, on the other hand, I have had patients who were quite sick, confined to bed during fever. The eruption is often confluent, and there are frequent pulse, headache, nausea, and sometimes persistent vomiting for hours. Fever and eruption usually disappear about the third day without any sequelæ.

The disease is not confined to childhood, but affects persons of all ages, sex and color, and seems to select adult females for the worst types of the affection. Pulse sometimes rises over 120; I have not taken the temperature. Many of those affected have had rubeola and scarlet fever. In the worst cases, at the commencement I gave calomel and rhubarb, $\frac{\text{—}}{aa}$ gr. v, effervescing draught or Seidlitz powders every four or five hours, and for relief of headache, restlessness and insomnia, bromide of potassium.

ART. V.—**Some of the Causes of the Decay of the Teeth of Americans.** By JAMES B. HODGKIN, D. D. S., Professor of Dental Mechanism and Metallurgy, Baltimore College of Dental Surgery; Associate Editor *American Journal of Dental Science*, etc., Washingtou, D. C. (Read before the Medical and Surgical Society of Baltimore, April 4th, 1878.)

Mr. President and Gentlemen,—As physicians, you are well aware of the fact that a very large class of the ills and ails of infants that fall under your professional care, are caused, directly or indirectly, by difficult or defective or retarded dentition; and the medical books are full and medical practice is loaded with works of this class. It is not my province to discuss this subject of dentition, or, as our English friends call it, *teething*, but only in passing to call your attention to the fact that these temporary teeth are in this day oftener lost by caries than by the normal and physiological process of shedding, and to ask your attention also to a fact which is peculiar to these teeth—*i. e.*, the position of decay in the lower molars. We find that the temporary teeth are attacked by caries on their grinding and proximate surfaces, much the same as in the adult; but there is, in addition, a peculiar point of decay, so seldom met with in the adult as

to exclude it from classification, and that is the location of the affection on the lingual surfaces of the lower temporary molars. Now, caries is found almost everywhere else than at this point in adult teeth, and it is worth while to bear this fact in mind, as it may be of service to us in some future discussion; and possibly some of you may be able to throw some light upon it to-night.

Normally, the temporary teeth are displaced by absorption of their roots, and the eruption of the permanent teeth follows in due course of time, and in regular order. This is *normal* teething. But in our day, such is the condition into which our children have fallen, that we find the temporary teeth are lost by caries rather than by shedding, and that the eruption of those which are expected to be permanent (though the term is almost a misnomer) takes place in edentulous jaws, the predecessors of these having been extracted to relieve the little sufferer of agonizing pain.

Let me call your attention to some peculiarities in the process of second dentition. You are aware that the first set consists of ten teeth for either jaw. You are also, of course, familiar with the beautiful physiological processes by which these teeth are evolved—beginning almost with conception, and ending in the twentieth year. The details I will not burden you with—only asking your special attention to the fact that the first permanent molar is anatomically a member of the second or permanent set, but physiologically it belongs with the deciduous teeth. For while this tooth is erupted *with* the permanent set, it is formed in a sac not evolved from the temporary, as are the other permanent teeth, but is an occupant of the primitive dental groove.

It is so well known by dentists that this tooth—the first permanent molar—is the first usually to decay, that, were I addressing dentists, I should feel called on to apologize for mentioning so trite a subject. But, while as specialists we are expected, and ought to be, perfectly conversant with such facts, you who are physicians cannot be called to so strict an account. It is a fact, then, gentlemen, that the first permanent or six-year molar, is, of all the teeth, the most susceptible to decay, and is most frequently lost.

I pass over the eruption of the other teeth until we come to the canine, which is erupted about the twelfth year, and followed closely by the second permanent molars; and the case is concluded by the third molar or wisdom tooth, which appears about the twentieth year.

So much for the order of eruption, and it is important to bear this in mind, that we may fairly understand the case before us; for it is a strange fact that nearly in the order of their eruption are these teeth affected by caries. I have no time, nor can I think of burdening you with the details of the relative liability of these teeth to decay; but I simply wish to fix in your minds the fact that the first permanent molars are the first to go; the order of loss is nearly regular —*i. e.*, the next erupted are the next to fall, and so on. It may be objected that the wisdom tooth is often, very often, lost, which I admit, but the causes influencing its loss are such as do not affect the statement; for, while it is dense in structure, it is the most difficult of all the teeth to keep clean.

Now, I have stated my case. I have stated what are most generally known facts among dentists—that in the order in which teeth are evolved and erupted they are lost by decay. And you will understand that in the few minutes I have to speak to you, I cannot go into minute particulars, or burden you with what few of us delight in—statistics.

Why is it that we lose our teeth in this way? Why is it that these organs which nature certainly intended should serve the purpose of mastication throughout our three-score years and ten, and be buried with us at last—why is it that they lie scattered along the pathway of our lives, ornamenting the collection of curiosities of some dentist; or, as irritating stumps, be the cause of endless annoyance and pain? While we are yet in our youth we are perforce (and this in spite of the vast progress which is being made in the art of preserving the teeth by filling them)—in spite of the fact that our knowledge of hygiene in other directions is prolonging life, and rendering it more tolerable to the feeble—in spite of all this, many are wearing artificial substitutes for natural organs, and the proportion of such is annually increasing, until the very children are losing these priceless treasures.

Some deep-seated cause is here. The immediate cause of dental caries we infer to be an acid condition of the secretions of the oral cavity, added to the effect produced by the decomposition of particles of food retained between the teeth. But behind all this is the plain fact, staring us in the face, that this is only the *proximate* cause, and that the predisposing cause must lie deeper. This is plain from the fact that the teeth of the lower omniverous domesticated animals—the dog, cat, &c., used in the mastication of substantially the same food, are not attacked by decay—indeed, in these animals, are rarely lost at all.

The loss of teeth by caries is peculiar to the human race, and peculiar only to the more civilized part of that race, and peculiarly to the Anglo-American. I am not prepared to say to what extent Europeans lose their teeth, but the impression prevails that they do not do so to the extent that we do; and as for the semi-savage and barbarous tribes, they are exempt from this curse in the main.

I have referred to the order in which the teeth are erupted—and have indicated that it is in the order of their development. We have seen further that these processes date far back in the history of the yet unborn child. In that mysterious evolution of which we know so little—in that occult process of the "growth of the bones in the womb of her that is with child," so very early in the life of the fœtus as to excite incredulity when the statement is made to the unscientific—the germs of the deciduous and the permanent teeth are formed; and before birth, their character is more or less firmly fixed for good or for ill.

In this wonderful laboratory of nature, where pulp and dentine, enamel and cementum are formed, where calcification is progressing, and "form and substance" are being given to organs which are as yet in embryo, a slight cause may disturb the balance of forces and effect the nutrition of these teeth.

A nervous, over-worked man, with feeble muscles and imperfect digestion, with brain-force up to its highest tension, dyspeptic and prematurely old, comes from a day of harrassing care, at night to share the bed of a hysterical, flabby-

muscled anæmic woman, all of whose organs are out of tone, and whose whole life-force is exhausted in her monthly periods. Too little of a woman to be other than passive under his conjugal embraces, too feeble for anything except the unfortunate inevitable conception which takes place, altogether unfit for the conditions which maternity imposes—this makeshift of a woman—this abortion of a true mother—carries in her for nine months the babe which she, at the fullness of time, brings all immature and imperfectly developed into the world. The history of those nine months is better known to you than to me. The utter want of tone, the absence of all elasticity, the yielding up to languor and debility, the defective nutrition—too often is it the case that the maternity is undesired, and the mournful spectacle is seen of an unwilling mother. Can there be a more lamentable condition of affairs? Can there be any hope, except that "great nature is more wise than we?"

Is it any wonder that the development of this child is bad? Is it any matter of mystery that we find it like its parents? Its after-history is seen in the record of your vital statistics, which show that half of these unfortunates perish by the age of five years, and that half of the survivors die of consumption.

Some survive, thanks to the admirable hygiene of our day. Good nursing, skillful medication, all the arts of modern science are brought into requisition, and the lives of some are prolonged until they outgrow their feebleness. Our physiology teaches us that their bones change, their tissues moult and are cast off, that their structures, by exercise and the beneficent help of a Providence, which *tends* to set us upright, no matter how we may be warped by malformation, are improved, until the feeble child of feeble parents is developed into something of robustness—only *something*, for the constitution is, as we know too sadly, anything but good, and succumb readily to disease.

But the same physiology teaches that while these improvements are being made in the tissues—the bones, muscles, &c. —the *teeth* are not susceptible to such change. They are *calcified*, not ossified, and as they are formed so they remain.

The truth *seems* to be that the enamel, the outer covering of the tooth—hard, dense, almost vitreous and practically inorganic—when once formed, can undergo no change of a physiological character, but remains throughout life as when first calcified.

Now, when we revert to the statements made earlier in this paper—to the fact that those teeth which are first formed are first to be destroyed by caries; that the temporary teeth are often attacked the first year of this eruption; that the first permanent molars, which belong there physiologically, are almost as easily destroyed; that the canines and wisdom teeth, which are matured in extra-uterine life, and when the tissues have opportunity for more perfect nutrition, are the strongest of all—I come to the conclusion that the great predisposing cause of the decay of the teeth of Americans is that of defective intra-uterine development.

Of course it is not for me to suggest (nor do I understand that this is the place or time) the remedy. And we all know perfectly well that argument would be useless in the presence of the mightier and all-potent, irresistible influence which impels marriages of unphysiological character. The feeble will mate with the frail I fear to the end of time, and what has been I suppose will be. But we can, perhaps, help by a few suggestions the condition of matters, which is certainly lamentable enough. You, gentlemen, of the medical profession, are in a better position than we of the dental profession to advise and counsel those who are bringing into the world so many delicate children, with imperfectly developed organs and structures, and you can earnestly advise the use of such hygienic means as may tend to modify this condition of affairs. Get your patients to understand that the function of gestation is of prime importance, not simply an accident of coition: that maturity is sacred, that the chances of having healthy offsprings are greatly increased by the approximate perfection of the physical condition, and that mothers may at least tend to secure better teeth for their children by bringing about in themselves the highest type of development. All that can influence the love of a mother for her child, its future welfare, its strength, its constitution, she should know; and

should know also that her mental condition is likely to affect her child's future.

I sum up, then, my conclusions (and I will be glad to have any light upon a subject about which I feel that I know less even than most of my hearers):

1. That as teeth are formed in structure, so they remain.
2. That they decay in somewhat the order, all other things being equal, of their calcification and eruption.
3. That teeth which are calcified in extra-uterine life, if the conditions of calcification are favorable, are less liable to decay.
4. That the condition of the mother, and possibly of both parents, materially influences the condition of the teeth so far as their calcification is concerned, and consequently their durability.
5. That the teeth of animals living more physiologically than civilized man are not subject to dental caries; and that,

Finally, good teeth will withstand even ill treatment.

No. 1221 Pennsylvania Avenue.

Clinical Reports.

Death from Chloroform Narcosis—Failure of Nélaton's Method, and of Amyl Nitrite Treatment. By HUGH M. TAYLOR, M. D., Assistant Demonstrator of Anatomy, Medical College of Virginia, Richmond, Va.

Prof. McGuire has requested me to report the following death from chloroform which occurred a few days ago in his practice. As far as I can learn, it is the second death from this agent which has occurred in our city, and is one of the very few recorded by our Southern surgeons.:

The patient was a gentleman from North Carolina, æt. 41 years. Twelve or fourteen months ago, he received a violent blow upon his perineum by being thrown upon the pommel of a saddle. His urethra was ruptured; this was followed by urinary infiltration, abscesses resulting in the loss of the entire penis, and part of the scrotum. Since that time,

he has been a very great sufferer, and had become entirely dependent upon anodynes, frequently taking as much as two grains of the sulphate of morphia a day. During the last six months of his sickness, he has spent most of his time in bed or in the recumbent position.

On the day of operation (April 20, 1878), (Drs. Cunningham, Ross, Leech, Maclin and Carroll co-operating), Squibb's purified chloroform was administered, for the purpose of making a direct outlet for the urine by external perineal urethrotomy. The administration of the anæsthetic was begun while the patient was in his bed. He was then put upon a table in the lithotomy position, and the table was drawn near an open window, occupying a position directly between the open window and an open door. I noticed, when giving him chloroform in his bed, that he was not easily brought under its influence. Some delay occurred in the first part of the operation in consequence of the extensive undermining of the tissues and burrowing of the urine and pus, leaving a great number of false passages, and rendering it tedious to get a guide of any sort into the bladder. During this stage of the operation, he was not kept fully under the chloroform. After some effort, the continuation of the urethra was found, and an instrument passed into the bladder. The administrator then carried the anæsthesia far enough to allow the operation to be finished. He had done this, and had taken the chloroform away for a few seconds, when we were all startled by one or two stertorous respirations, and then followed an entire cessation of respiratory effort.

In less time than I can tell it, his tongue was drawn forward with a tenaculum; his feet were raised and his head was lowered; water was dashed in his face; his cheeks smacked; nitrite of amyl held to his nose. As none of these aroused him, he was quickly placed on the table and artificial respiration resorted to. Dr. Ross and I raised and depressed his arms, while Drs. McGuire and Cunningham compressed his thorax. Let me here remark that I am sure in this case the death was not from asphyxia or the impregnation of his blood with carbonic acid. The efforts at artificial respiration were eminently successful. As the arms were raised, the air rushed into his lungs, producing a stertor as natural as life—and then when the thorax was compressed, the blowing sound of exit was plainly heard. Indeed, these artificial inspirations and expirations were so strikingly normal as to deceive me for sometime into believing them vital. During this time, whiskey was injected into his rectum; amyl occasionally held to

his nose, and the foot of the table elevated. Only once during our prolonged efforts to resuscitate him was there the least token of returning animation, and that was when the first dash of cold water struck his face. Then he gasped feebly—but once. His features from the first were blanched and bloodless—he carried to his grave the finger marks produced by slapping him; his pupils were both widely dilated; his lips blue. He had been under the influence of chloroform for about three-quarters of an hour—at no time very profoundly. During this time, he took about ℥j of Squibb's purified chloroform. The large quantity of anodynes which he had accustomed himself to, and the extreme sensitiveness of the parts manipulated, rendered it difficult to anæsthetize him. He had taken chloroform twice before he came to the city, and this latter trouble, viz.: inability to completely affect him, was noticed upon both occasions.

In reviewing the case, we conclude that death was brought about through syncope; that amyl had no effect in replenishing the anæmic blood-vessels of the brain; and that at least one case has happened when its antidotal virtues were not at all noticeable; that the result was of sudden occurrence and of speedy termination; that his pulse was good a very few seconds before, and that the artificial respiration would have oxygenated any quantity of carbonized blood with which his lungs might have been surcharged; that the administrator was in no manner to blame, as he fulfilled his part with the utmost care and skill. The verdict of all present was that death was caused by chloroform; but that the same was carefully and judiciously administered.

Case of Inveterate Mammary Neuralgia, due to Unsuspected Uterine Version. By JOHN W. AYLER, M. D., Passapatanzy, Va.

Mrs. A., aged 35, was taken suddenly the 22d day of June, 1875, with a pain immediately under the left mammary gland. After several hours of intense suffering, she was relieved by the use of morphine. About the 1st of July, she was attacked by a similar pain, in precisely the same spot. The same remedies were used as before, but in increased doses, and the pain was relieved. About that time (1st of July), she became pregnant, and for awhile seemed to have regained her former health. August passed without any indication of the pains being marked; but in September, at the same time of the

month, it returned in full force, at the same spot in the left mamma. Half grain of morphine was used endermically, and half-grain doses were used internally, which soon relieved the suffering.

For two months, Mrs. A. seemed to enjoy almost perfect health; but in December, most unexpectedly to me, the pain returned at the same point as before. The same remedies were used as before, but my patient experienced no relief whatever. Finding my remedies failing to relieve the patient, I called in an eminent physician, who joined me in using every means in our power to subdue the pain, but in vain.

My patient was now becoming very weak from the effect of such continued agony—and nature was almost exhausted from loss of rest. Two other physicians were summoned, and after consultation, the disease was pronounced by them to be neuralgia. Various remedies were suggested, and were applied to the affected spot, but, as before, there was no abatement of the pain,

For two weeks, my patient suffered intensely; and never slept except when under the influence of the most powerful anodynes. During this period, she took three and a half pounds of chloroform—morphine endermically and internally; quinine and arsenic, and aconite, singly and combined, were used, and blisters were applied to the seat of pain, and chloroform, bromide of potassium, and chloral, combined, were applied to the raw surface. Ice bags were applied to the spinal column; bottles of hot water used in the same way; and yet, with all of these powerful remedies, not one particle of permanent relief was received. As it had been pronounced neuralgia, and the whole battery of anti-nervines had been directed against the affected spot, surely some of them ought to have had some effect.

Being with Mrs. A. constantly, I began to suspect that her pain was caused by some disease of the uterus, and I suggested that an examination be made; but the gentlemen associated with me did not think it necessary. During a moment of intense agony, I noticed that my patient pressed her hand continually on the lower part of the abdomen, in the left iliac region. I determined then to make an examination. I found the uterus had fallen, the os was very much enlarged and lying far to the left. I raised the womb, turned the os to the right, when, to my great joy, the pain *immediately* began to subside. Finding that it afforded such relief, I kept my finger on the os—my patient slept the first natural sleep that she had enjoyed for fourteen days.

After her confinement, she was again attacked. I then determined to send my patient to your city, and place her under the care of Dr. F. B. Watkins, knowing of his long experience and wonderful success in such cases. The case was stated to him; he made an examination, and he found a right oblique anteversion of the uterus.

For two months my patient was under his care, and at the end of that time, she returned home entirely cured, and has never since had a symptom of her old malady. I consider the cure of my patient due entirely to the correct diagnosis and skillful treatment of Dr. Watkins.

King George County, Va.

Correspondence.

Inquiry Regarding Nitrous Oxide Gas Effects.

Mr. Editor,—I am endeavoring, with the aid of others, to obtain some statistics on the subject of the "After Effects of Nitrous Oxide Gas," which, in the past few years, has been so largely used by dentists as a brief anæsthetic. As the practice of the dentist is exclusively an office practice, he has only an opportunity of noting the immediate results of the agent; and there has grown in the minds of the profession of late a suspicion that the sequelæ are oftener injurious and pernicious than is commonly supposed. Cases of paralysis, of obscure nervous lesion, of chest troubles, &c., are known to have followed its administration, and it is exceedingly desirable that the clinical experience of physicians should be put on record.

I appeal, through your widely-circulated journal, to its readers to furnish me with any facts which may throw light upon this subject. Anything, from an elaborate article to a short note, will be acceptable, and will be duly credited.

Address JAMES B. HODGKIN, D. D. S.,
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Correction—Opium-Eaters—Alcohol Effects.

Mr. Editor,—In the report of the discussion in the Richmond Academy of Medicine, published in your March num-

ber, I am made to say that "opium-eaters" do not lose their flesh or their color, when I distinctly stated that the person to whom I especially referred, who had been living on morphine for twenty years, was "very thin and as white as this wall" (pointing to the ceiling of the hall), and that I supposed there must be an anæmic condition of the mucous membrane of the stomach. I inquired whether any gentleman present was acquainted with the *post mortem* appearances of the stomach of opium-eaters. To this there was no reply, except in the negative on the part of one or two gentlemen.

I think, as a rule, opium-eating is more destructive of healthy digestion than whiskey-drinking, and hence there is greater waste to the system. Alcohol in excess and long-continued, seems to produce an inflammatory condition, or a congested condition of the skin and cellular tissue, and probably of the entire system. The blood itself may produce this condition of things, as it is charged with alcohol. It has been stated upon pretty good authority that three drinks a day of one ounce each (two tablespoonfuls) will increase the pulse in a healthy man not accustomed to it, ten beats per minute, or 14,000 in 24 hours. This condition of the circulation must produce highly-excited action, not only in the brain and heart, but throughout the entire organs, resulting, very often, in what is called a "bloated" state of the face and skin generally. The hands are swollen and hot, as well as the face.

By the way, when applied to by tramps and other imposters for aid, as one of the officers of the Young Men's Christian Association, I can quickly tell whether the applicant is an inebriate by the condition of his pulse and skin. The action of opium is, I think, quite the reverse of all this. The nervous system is obtunded, and with it impaired functional activity and sensibility in all the organs. The heart's action may be quick but it is weak. The skin is bloodless and shrunken. Sometimes the skin is *bronzed*, but in these cases I think whiskey-drinking is combined with the opium habit. A woman, addicted to these two vices, came under my treatment three years ago, and it was astonishing to witness the effects of the withdrawal of these agents. In two months her old acquaintances would not have recognized her.

She looked fifteen or twenty years younger. Indeed, in two weeks' absence from her home, I failed at first to recognize her. The transformation was complete, and the cure, I am glad to say, was radical.

Pardon this digression from my purpose. The mistake referred to, I have no doubt, was altogether the result of accident. WM. W. PARKER, M. D.

Richmond, Va., April 13th.

Alabama State Medical Association—Dr. R. S. Payne's Article.

Mr. Editor,—For the first time in the annals of the Association, it convened in the southeastern portion of the State, on the second Tuesday in April, 1878, at 12 M., at the beautiful little city of Eufaula, which gracefully nestles on a magnificent plateau, immediately on the west bank of the Chattahoochee, a city proverbial for the beauty and refinement of its daughters, the chivalry of its sons, and a generous hospitality—the natural outgrowth of the two first. The Medical Association of Alabama was called to order by its President, that elegant gentleman and accomplished physician, Dr. Bryce, of Tuscaloosa, who proved himself throughout its sittings an *au fait* in the management of the body, as he has done in the administration of the State Asylum for the Insane, in which latter position he is universally conceded without a superior.

After prayer, the President read his annual message, a very able paper on the "Sanitary Needs of Alabama," requiring two hours for its delivery. It set forth the great strides the Association had made, and painted in glowing language the brilliant results we might look forward to and hope for in the future. It was remarkable for its breadth of thought and great wealth of suggestions, opening up to the profession a field of glorious achievement, and inspiring the hope that many of the ills which flesh is now subject to, will be banished from the soil of our beloved State, when the wise recommendations of the Association shall be put in working order and properly carried out.

The Secretary then presented his report, showing, among

other things, the flattering advance the Association had made during his five years of service.

Next came the Treasurer's report, showing a considerable balance to the credit of the Association, an anomaly so unheard of at this day and time, that some fears are entertained that the body will have to follow the accomplished President to the Asylum, under the idea of the lunatic, who, when asked why he was in "durance vile," replied that it was simply the result of a difference of opinion—he and the outside world believing each other crazy; they having the majority carried the day.

At night, in the beautiful opera-house of the city, which the efficient Committee of Arrangements had the good taste to select, the Orator, Dr. B. H. Riggs, of Selma, delivered a well-matured and eloquent address, showing much literary merit on "The Past, Present and Future of Medicine," which was received with flattering attention by a large and appreciative audience of ladies and gentlemen, thus closing the first day's doings.

The first paper on the second morning was a biographical sketch by Dr. B. H. Riggs of the late Dr. A. G. Mabry, of Selma, a good man and wise physician, an ex-president and counsellor of the Association, who had stood sponsor at its birth, watched over and sustained it in its feebleness, and rejoiced in its assured success.

Dr. Jerome Cochran next read the salient points of his paper on *Hermaphrodism*, explaining from a scientific standpoint how such a monstrosity might and does exist in the human species, showing, as does everything which emanates from his pen, exhaustive research and great learning.

Dr. W. H. Johnston, of Selma, next presented a practical essay on *Endometritis*, which from the flattering encomiums that were showered upon him at the close of his reading, showed plainly that papers of this character are but too rarely presented to the body.

As just here two papers—the first by Dr. Ketchum and the other by Dr. Gaston—were referred to the Publishing Committee without being read, it left some hour and a half before the time for adjournment unoccupied. This hour was taken up in lively discussion on Quinine, Digitalis and Cold Water,

which left such a favorable impression that the College of Censors recommended in their report the addition of a day to our future sessions to be spent in similar discussions.

While this closes the business of the second day, any description would be faulty indeed if the magnificent reception given to the Association by that Nestor of the profession of Eufaula, Dr. Thornton, and his beautiful and accomplished wife, was left in the background; and I feel that I can describe it no better than by quoting the third of a series of resolutions offered by Dr. Ketchum just before our final adjournment.

"That to the honored citizen and beloved physician, Dr. W. H. Thornton, the Association feels under peculiar obligations. His unbounded hospitality extended to the entire Association on last evening, not only proved his fraternal feeling, and the high regard in which he holds the Association, but gave to this body a most pleasing opportunity of convincing themselves that the heroism, statesmanship and eloquence of her gifted citizens was only equalled by the grace and beauty, refinement and cultivation of her fair women."

The third day was opened with a paper by Dr. Sanders, of Mobile, on the Ophthalmoscope, assisted by some well-executed diagrams on the black-board. The doctor possesses a fine voice, and it was soon evident, to all present, that he was deeply in love with his subject; in fact, his description of the beauties brought to the eye of the observer by this instrument, was as eloquent and striking as ever poet sang.

The next three hours were occupied by the report of the College of Censors, presented by that remarkable man, Dr. Jerome Cochran, the senior Censor. It will be found a statesmanlike document, and when I say it was the work of Cochran, it is unnecessary to add that it was complete and exhaustive in all of its parts.

Lastly came the election of officers, which resulted as follows: For President, Dr. R. D. Webb, of Livingston; Vice-Presidents, Dr. T. D. Baker, of Eufaula, and Dr. M. C. Baldridge, of Huntsville; Secretary for five years, Dr. A. T. Means of Montgomery; Treasurer for five years, Dr. W. C. Jackson, of Montgomery; Orator, Dr. W. A. Mitchell, of Eufaula; Alternate, Dr. W. H. Johnston, of Selma; Censors for five years, Dr. Jerome Cochran, of Mobile, and Dr. C.

D. Parke, of Selma; Censor in place of Dr. Semple, deceased, for one year, Dr. M. H. Jordan, of Birmingham.

Then at 5 o'clock on Thursday afternoon the Association adjourned to meet in Selma on the second Tuesday in April, 1879.

And now in closing (though for the life of me I can't see the connection between the Association and what I wish to say), you must allow me to make my best bow to Dr. R. L. Payne, of North Carolina, for his inimitable paper in the March number of the *Monthly*; for while, if gravely stated, I do not sanction the animus of his article, as I am quite convinced it is never best to throw cold water on any advance in legitimate medicine, and especially so in this instance, where he frankly admits that every remedy he so wittily handles is a boon when kept within bounds and judiciously used; and as to the hobby-riders and fanatics he wishes to reach, he is but "carrying his coal to Newcastle," for they are joined to their idols and may as well be let alone; but my reason for raising my hat and giving him a lusty hurrah! is for the real Oliver Wendell Holmes wit his article contains, and the hearty laugh I enjoyed while reading it. Indeed, the laugh was so loud and prolonged that my "better half," who happened to be present, seemed to fear that I might follow in the wake of the vicious old jackass and require a death certificate under the head of "asphixia," for she suggested to my little daughter "to give father a few thumps in the back," a domestic prescription, from time immemorial, as you doubtless know, for the relief of choking caused by laughter as well as fishbones.

So present the doctor my compliments with many thanks, for of the two ancient philosophers, one who cried at the follies of mankind and the other who laughed, I have always looked upon the latter as decidedly the more sensible of the two, besides the additional advantage he enjoyed of taking on a goodly supply of adipose tissue (provided there is any truth in the old adage of laugh and grow fat) to soften the many cuffs and blows one must necessarily encounter in making his way through this world of ours.

Yours truly, C. D. Parke.

Selma, Ala., April 15, 1878.

Original Translations.

Translations from the French and German. By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

Phosphorus in the Treatment of Chronic Alcoholism.—The *Journal d' Hygiene*, of February 21, 1878, contains an article on this subject, taken from the *Gazette Medicale Italienne*. Dr. d' Ancona, the author of the paper, remarks in the outset that this mode of treatment is not new, but he thinks it has not received the attention which it deserves. He justly states that the rapid increase of troubles, due to the excessive use of alcoholic liquors, and the great difficulty of treating such cases effectually, makes any remedy, which seems to render any service to such patients, worthy of careful study and investigation.

The etiology and symptomatology of chronic alcoholism are, alas, but too well known, and hence he deems it unnecessary to consider these points. He gives the details of five cases in which he has used phosphorus in the form of phosphide of zinc. We give a brief history of one of these cases. The treatment was commenced on the 20th of May, 1877, and continued without interruption till the 1st of October following. During this time, the patient took from one to ten centigrammes of the remedy a day. Eight grammes were taken in all. During the month of October, it was only given four days each week, in the dose of three centigrammes each day. There were no evil results produced; no loss of appetite, and no gastric disturbance; indeed, the general condition steadily improved.

He comes to the following conclusions at the end of his paper:

1. Phosphorus is a very useful remedy in the treatment of chronic alcoholism.

2. The medicine is perfectly tolerated in doses which no one has dared to give heretofore—ten centigrammes (nearly 1½ grains) a day for many weeks.

3. The remedy gives to drinkers a feeling of comfort and strength, and furnishes the force necessary to carry on their organic functions, which they have been accustomed to get from alcoholic liquors.

4. The medicine seems also to have the properties of a prophylactic and an antidote, for it causes very beneficial

changes in the system, even when the use of liquor has not been entirely stopped.

Dr. d'Ancona then gives a theory as to its *modus operandi* in three cases, and in conclusion begs that a fair and impartial trial be given the medicine, and that the results be published.

Typhoid Fever of Renal Form.—In *Le Progrès Médical*, of March 9, 1878, is a brief notice of a little work having this title, by Dr. Charles Amat, of Val-de-Grâce.

Dr. A. states that typhoid fever is divided into different forms, as different organs or systems are most prominently affected; for example, the central, cerebro-spinal and thoracic forms have been especially described. The renal form, he states, has been neglected thus far. He expresses his views in the following summary:

1. The typhoid poison may effect principally the kidneys, just as the brain, spinal marrow or lungs may be the organs chiefly affected.

2. Although mentioned by Gubler, Robin and Hardy, no complete description has yet been given of this form of the affection.

3. It possesses a special symptomatology—slight diarrhœa, extreme debility, ashy paleness of the skin, copious epistaxis, morbid delirium, and very high temperature: there is but little eruption. The special symptoms connected with the urinary organs are, the bloody appearance of the urine, the presence of a sediment formed of red and white blood corpuscles and tube casts, and also the presence of albumen in considerable quantity.

4. The ordinary form of typhoid fever is differentiated from the renal form by the greater intensity of the abdominal symptoms, a more copious diarrhœa, by the delirium being less marked, the temperature lower, the eruption more confluent. The urine in the ordinary form is of an orange color; the sediment is not constant, and when present, consists chiefly of urates and phosphates. The albumen is in very small quantity, if present at all.

5. In the renal form, but few of the intestinal follicles are affected. The kidneys are enlarged, and present the alterations of interstitial nephritis.

6. The renal form may be confounded with ordinary typhoid fever, and in certain cases with simple nephritis.

7. The course and duration of the affection are variable; the termination is generally in death.

8. The condition of the urine is important with respect to

prognosis; a diminution in the amount of sediment and albumen in the urine being of favorable import.

9. The patient should be subjected to a milk diet, and cold baths are to be scrupulously avoided.

Treatment of Vaginismus.—Dr. F. Weber, of St. Petersburg (*Allg. Med. Central Zeitung*, Nos. 1 & 2, 1878, and *Allg. Wein. Med. Zeitung*, January 22, 1878), thinks that the treatment of vaginismus should depend upon its cause, and should not be the same in all cases. Some local cause should always be sought for, and both local and general treatment are advisable.

The most common causes of the affection, he thinks, are a rigid condition of the hymen, gonorrhœal or catarrhal inflammation of the vagina, and also cicatrices, ulceration, or excoriation of the vulva and outer parts of the vagina.

Organic contraction should be treated by methodical dilatation, at first with compressed sponge, and subsequently with Fergusson's specula, the size of which should be gradually increased. An ointment of belladonna is of great service at the same time. Inflammation of the vagina should be treated with cloths, wet with a solution of sugar of lead, injections with or without opium, and belladonna suppositories. In the later stages, cauterization, with a solution of nitrate of silver, gives excellent results. This is especially serviceable when there are excoriations. Warm hip baths lessen the irritability of the nerves, and are of service. In addition to the local treatment, tonics and nervines should be used—especially bromide of potassium, iron and valerian. When no local trouble is to be found, and the sufferings of the patient are very severe, division of the nervus pudendus, as recommended by Simpson and Sims, should be practised. The removal of the hymen itself or the myrtiform caruncule, Weber has never found necessary [though it has been repeatedly done by Sims and others].

Treatment of Varicose Veins.—(*Mittheil. des Wiener Med. Doctoren-Collegiums*, No. 8, 1878.) In one of the numbers of the *Transactions* of the Wiener Medicinshe Doctoren-Collegiums for the latter part of 1877, Dr. Englisch published a paper on the treatment of hernia by injections of alcohol. The favorable results which he obtained from this mode of treatment in hernia, induced him, he states, to test its value as a method of radically curing varicose veins. He states that this method for the radical cure of varices has the advantage over all others that it is perfectly harmless.

The method which Dr. Englisch pursues is very simple. The vein and a fold of the skin are caught up between the

thumb and finger, and a needle of a Pravaz syringe is inserted in such a way that its point shall be immediately behind the vein. The contents of the syringe, from one to one and a half cubic centimetres of a fifty per cent. sample of alcohol, are then discharged in the immediate neighborhood of the vein. A small knot forms at the point of injection, and very often there is a momentary appearance of contraction in the veins. On the third day, there will be a considerable infiltration at the point of injection, which differs according to the irritability of different persons. In individuals who were very irritable, there was considerable redness produced, and in four or five cases suppuration ensued. The suppuration was only in the *neighborhood* of the vein, however; the vessel itself remained sound and healthy. The abscesses were as large as a bean, but gave rise to no trouble whatever. In none of Dr. E's cases was there any rise of temperature, though he examined carefully with reference to this point. When the infiltration softened and the swelling subsided, a change in the veins themselves became apparent. They were much smaller and harder at the point of injection and its vicinity, and felt like hard cords; and at the sides of these cords very well-marked grooves could be felt.

In a few of the cases, a single injection sufficed to cause a complete cure; but in the majority of cases, Dr. E. found it necessary to make three or four, and in one person he made as many as ten injections in both limbs.

The results are most favorable when the affected veins are spread out in the form of a plexus, and the cases are most difficult to treat when the varicose vessels give off a number of branches. The subjective troubles in consequence of the operation are very slight, and only require rest of the limbs.

The duration of treatment varies. Even in those cases where a complete cure cannot be obtained, the efficiency of the palliative means of treatment will be rendered much greater.

The mode of treatment is perfectly harmless, and if it does not succeed, the other procedures may then be resorted to.

The Action of Parenchymatous Injections of Acetic Acid in Carcinoma.—Th. Gies. (*Deutsch. Ztchr. f. Chir.*, 8) calls attention to the value of injections of concentrated acetic acid (one part of acid to three of water) into the substance of cancerous tumors. In two cases, in one of which the cancer had been removed and had subsequently returned, he made two or three injections daily, using a syringe full each time, and

the softening (verjauchung) of the tumor was rapidly caused. When the softening had progressed sufficiently the tumors were cut into, and the ichorous fluid allowed to escape. Complete disappearance of the growths resulted.

Clinical Study of Ferrocyanide of Potassium.—By Drs. Regnault and G. Hayem. This paper was read before the Academie de Médicine on the 19th of March, 1878, and we take the following conclusions which the authors reach, from *Le Progrès Médical* of March 23d:

1. Ferrocyanide of potassium is entirely inactive as a ferruginous preparation, and contributes nothing to the regeneration of the red corpuscles of the blood.

2. The organo-metallic radical is not altered in any way in the system; the iron which it contains remains inert, and the cyanogen seems to be perfectly harmless, since several grammes a day may be taken for two weeks or months without any evil result.

3. A number of experiments made by the authors seems to show that in doses of from five to six grammes, the ferrocyanide of potassium exercises no appreciable influence on the flow of urine, nor on the amount of urea excreted.

Influence of Muscular Contractions on the Temperature of Peripheral Portions of the Body.—(*Le Progrès Médical*, March 23d, 1878.) Drs. Grasoit and Apolinario have recently made some investigations on this subject, which are published in the journal just mentioned. The temperature of the forearm was taken when the fingers were moved energetically and the hand pronated and supinated rapidly. Before the movements commenced, the temperature determined by a surface thermometer was 33.6°C. It gradually arose till, after eleven minutes of muscular exercise, it stood at 34.8°.

In a second healthy person, the thermometer being applied to the forearm as before, stood at 34° when the individual was quiet, but after forty minutes of exercise, stood at 35.2°.

In a third case, in which the thermometer was again placed on the forearm, it registered 33.2° when the person was quiet, and rose to 35.3° after an hour of muscular exertion.

In a fourth subject, the temperature of the forearm in repose was 32.8°. After seventeen minutes of exercise it rose to 35.4, and then after five minutes of repose it fell to 33.6.°

An Ink composed of copper 1 part, dissolved in 10 parts nitric acid, 10 parts water being afterwards added, is useful for marking on tin or zinc plant labels.

Translations from French. By J. S. WELLFORD, M. D., Professor Materia Medica and Therapeutics, Medical College of Virginia, etc., Richmond, Va.

Auditory Disturbances in Bright's Disease.—M. Dieulafoy, in the *Gazette Hebdomadaire*, says: Since my attention has been attracted to the auditory disturbances, buzzing, dullness of hearing, and deafness which accompany the different forms of Bright's disease, I have collected fifteen cases which lead me to believe that these auditory disturbances, far from being a rarity, should be considered symptoms in the same manner as the ocular phenomena which are so frequently encountered.

These auditory disturbances are not always identical. Most frequently they consist of buzzing in one or both ears. Generally these buzzings are accompanied or followed by dullness of hearing; sometimes the dullness occurs without preceding buzzing. It may be temporary and subject to return. Rarely the deafness is complete. It may localize itself in one ear, and according to the case disappear or become permanent. Finally, these different auditory disturbances are sometimes painless, but sometimes associated with acute pain in the face or in the ears.

The following *resumé* of some cases will show the different types of the auditory disturbances that I have just mentioned:

Case I.—*Interstitial Nephritis—Auditory Disturbances.*—I saw, some time since, a man, still young, who, without appreciable etiological causes, complained of palpitation and oppressions. These symptoms, which had lasted for nearly a year, had notably increased during the last few weeks. On auscultation, I found fine, disseminated râles at the base of both lungs. The heart was voluminous, and it presented the *bruit de galop* (the galloping sound) so well described by my preceptor, M. Potain, in Bright's disease. The patient had never had œdema of the face or extremities. For six months, the urine had become abundant, clear, fawny and sometimes red and bloody. The examination of the urine made by M. Yvon gave the following result: Color, amber yellow; reaction, acid; density, 1021; urea, 24.36; albumen, 14; sugar none. Histological examination—some leucocytes. The patient had also suffered for some weeks from gastric troubles, frequent ineffectual efforts to vomit, and intestinal symptoms; diarrhœa alternating with constipation. He also stated

that he had, for twelve or fifteen months, been subject to buzzing in the ear—sometimes on one side, sometimes on the other; and that the hearing at times was so enfeebled that he was obliged to have whole sentences of a conversation repeated.

I sent the patient to M. Ladroit de Lacharrière, who kindly examined him, and sent me the following note: I find some permanent lesions of the tympani: 1st. An abnormal vascularity on a level with the malleus on the right side: 2. A thickening with depression of the left tympanum, which did not reflect the luminous rays.

Case II.—*Parenchymatous Nephritis—Deafness at the Beginning and during the Course of the Disease.* I had last year in my service at the temporary hospital, No. 28 Sainte Helene Ward, a boy nineteen years old, Willie, suffering from parenchymatous nephritis. He was taken two years previously with acute pains in the left ear, and with almost complete deafness on the same side. These symptoms had lasted some fifteen days, and had been followed by a sudden œdema of the legs, scrotum, and, later, of the face. Two years afterwards, we discovered a general œdema. The urine was clear, and contained two grammes of albumen to the quart; the proportion of urea was normal. The patient complained neither of amblyopia, epistaxis, dyspnœa, nor gastric disturbance. We could ascertain neither cardiac hypertrophy nor *bruit de galop.* In the last two months, the buzzing has reappeared in both ears.

On *March* 26, this boy stated that he felt, in the left ear, pains similar to those which had marked the commencement of his disease, at the same time swelling of the face was more apparent, and *the hearing on the left side was almost entirely lost.*

March 31. The pains were less acute, and the examination of the ear, made by M. Ladroit de Lacharrière disclosed a rupture of the tympanum.

Case III.—*Acute Nephritis—Deafness.* Dr. Villard informs me of the following case which shows that the auditory troubles may mark the commencement of an acute nephritis.

February 22 last, I was called in consultation with Dr. Vincent to a lady of forty-five, suffering for some twelve days of right pneumonia. The convalescence had fairly commenced when, on the morning of *February* 22, the patient had a violent chill, followed by fever and considerable malaise. The temperature was high, the pulse being 120, and nothing on the side of the chest or otherwise could explain the febrile

condition. The patient, moreover, had complained since the previous evening of a very *marked deafness in the right ear.* Two days afterwards, my *confrère* and I both observed swelling of the face and œdema of the legs. The examination of the urine, immediately made, disclosed a considerable quantity of albumen; soon afterwards the deafness was relieved.

Case IV.—*Bright's Disease—Complete and Permanent Deafness of the Left Ear.* A female patient, aged forty-four, lying at No. 5 Saint Jean Ward, in my service at the temporary hospital, wastaken four years ago with a slight facial œdema with acute pain in the same region, and *absolute deafness* of the same side. Four months ago, the dyspnœa, hitherto insignificant, had become intense, and the œdema had suddenly invaded the whole extent of the body. The heart was not hypertrophied; neither was there the *bruit de galop.* The urine was clear, deep-colored, and contained a notable quantity of albumen. There was *complete deafness on the left side.* A violent headache and vomiting came on (urœmic symptoms), and the patient died.

Case V.—*Bright's Disease—Incomplete Deafness with Intermissions.* At No. 22 Saint Louis Ward of the temporary hospital, is a patient who was taken, two years ago, with œdema, which successively invaded the face, the inferior limbs and the trunk. With this anasarca, other symptoms have appeared—polyuria, dyspnœa, amblyopia and epistaxis. There was neither cardiac hypertrophy, nor *bruit de galop.* The urine was clear and abundant, and contained four grammes of albumen to the quart. This woman states that she was taken at the commencement of the disease, and nearly fifteen days after the œdema of the face, with a *dullness of hearing* in the left ear, which, since that time, has appeared and disappeared at several periods.

I might multiply these cases, which exhibit the different auditory symptoms observed in Bright's disease. A short time since, Dr. Gèry informed me of two other examples of weakness of hearing supervening in course of albuminous nephritis. Since my attention has been fixed ou this subject, I have observed or collected thirty-seven cases of chronic and acute nephritis, and in them these auditory symptoms have been present fifteen times, divided in the following manner:

Permanent and complete deafness of the left ear.....1
Strongly marked but temporary dullness.....3
Simple weakness of hearing.....6
Buzzing and roaring in the ears without deafness.....5

These symptoms are not, therefore, rare, since they are

found in more than a third of the cases, although when we consult the authors on diseases of the kidneys, we find that these auditory symptoms have passed unobserved—without doubt, because the disturbances of the hearing, most frequently temporary or incomplete, have annoyed the patients much less than other symptoms—those of the eyes, for example. Still I have found some allusions to them in the authorities. Rayer, in his remarkable treatise on the diseases of the kidneys, speaks indeed of the auditory symptoms; but he merely cites the fact in the relation of a case, without endeavoring to interpret it. Rosenstein goes further: He reports the case of a young girl who, in the course of a parenchymatous nephritis, was taken with deafness—at first intermittent, then persistent and complete. Rosenstein asks, to what cause should this deafness be attributed? He inquires whether it was due to the sulphate of quinine that the patient had taken in the course of the disease, but concludes by assigning it to an "œdema of the auditory nerve."

The fact of these auditory symptoms being admitted, the following questions arise for examination:

1st. In what forms of Bright's disease do these symptoms occur?

2. At what period do they appear?

3. To what lesions should they be attributed?

4. What is their diagnostic value?

1st. It would be difficult to say positively whether these auditory symptoms are specially due to any one of the forms of Bright's disease. Clinical observation without an autopsy is often unable to determine the parenchymatous or the interstitial form of chronic nephritis, and (except in the extreme, and, therefore, typical cases of the small, contracted, or of the large, white kidney), the autopsy often shows our mistake; and we find mixed renal diseases when we have diagnosed the interstitial or the parenchymatous form. I cannot, therefore, say whether the auditory symptoms predominate in this or that nephritis, the observations and the autopsies not being at this time sufficient in number. But this we may say, that these auditory symptoms exist in all the forms of the nephritis—chronic or acute—and if I may give approximately the proportion of auditory disturbances with regard to the form of nephritis which has caused them, I would say—approximately I repeat—in 16 cases:

Parenchymatous nephritis		.....	4 cases.
Interstitial	"	.....	4 "
Mixed	"	.....	7 "
Simple acute	"	.....	1 "

2d. The auditory symptoms appear at all stages of nephritis. Eleven times in fifteen, they seem to be contemporaneous with the œdema or the recedescence of the œdema. In Case III, they preceded the œdema by 48 hours; in Cases II and IV they marked, with the œdema, the commencement of the disease. Most frequently, the auditory symptoms were temporary; they lasted in several cases several days, and then they disappeared, or the conditions improved to re-appear again. In one case, only, No. IV, the deafness was permanent; it was equally so in Rosenstein's case.

3d. The intensity of the auditory symptoms—whether complete and permanent deafness, or incomplete and temporary deafness, or buzzing in the ears—are very variable. It may be mentioned that several times (five cases) they have coincided with a painful period (facial neuralgia or profound pain in the ears); several times also (three cases) they have appeared on the same side as the facial œdema, or, at least, on the side with the predominance of the œdema.

4th. The question as to what lesions of the ear or of the auditory nerve we should attribute them will be elucidated in proportion as the cases accumulate. We have seen in the examinations made by M. Ladroit de Lacharrière, there was in the several cases a rupture of the tympanum, abnormal vascularity on a level with the handle of the malleus and sclerosis of the tympanum. Perhaps, we may observe passing œdemas, subacute inflammations, limited hæmorrhages—in fact, all the lesions analagous to those described in the ocular disturbances of Bright's disease.

5th. In a diagnostic view, these auditory symptoms may be a real assistance. First, they often complete the tableau of the disease; in some cases they precede the other symptoms, and sometimes they solve a difficult diagnosis. In fact, there exist obscure forms of Bright's disease, in which the nephritis is revealed neither by the œdema, nor by the other apparent signs. Twice I have seen the interstitial nephritis characterized solely by the cardiac hypertrophy with the *bruit de galop;* but there existed, at the same time, the auditory symptoms, and the examination of the urine revealed the albumen and confirmed the diagnosis. It is not rare to see these obscure forms reveal themselves only by the uræmic symptoms (obstinate headache, vomiting, &c.): in similar cases the auditory symptoms, associated with them, would induce us to examine the urine, and it would not be without importance with regard to the diagnosis.

Translations from the Spanish. By CHARLES R. CULLEN, M. D., of Henrico County. Post Office: Richmond, Va.

Taking of Spanish Census.—In a recent lecture by Dr. Raphael Mendex, of the Medical College of Barcelona, Spain, the speaker remarked that the taking of a thorough census of the Spanish population is a notable event in the history of the country. If science, and especially hygienic science, can be properly advanced thereby, the influence of statistical information will of course be very great. Let us notice what is proposed by the legal order for the taking of a census. In the first place, to take the census of the sexes, with their various occupations, etc., of each sex requires peculiar adaptability to the work on the part of the officer; and unless the work is properly attended to, more of error than truth will be brought out. Suppose a man and woman live together illicitly, how shall they be classified? and if they have children how are they to be registered? The usual error here is that the census is too particular. Again, as to the religions, many do not wish their belief known for fear of bringing trouble upon themselves. Not long since, the professors of Lerida had the courage to express their views, but had fines imposed upon them therefor. Others, no doubt, did not register their religious professions for fear of subjecting themselves to punishment of some kind. Or, again, the registration of marked physical defects, as quaint noses, big ears, the absence of one or more fingers or toes, or leprous diseases, is requiring too much at the hands of the census-taker, and will make the office very disagreeable and ridiculous. Doubtless the object is a good one, and would prove beneficial in the end if the duties are thoroughly performed.

Jaborandi.—In a discussion arising on this new remedy in the Medical Society of Madrid, Dr. Pedro Esquerdo said that he selected cases of rheumatism, pleurisy, pericarditis, dropsies, epistaxis, etc., in which to test the action of the drug. The most important results noticed were irregularity or inconstancy in its action, and the great number of accidents which occurred during its administration. As a sudorific, in his hands, it did not produce the effects he expected. Instead of copious expectoration, salivation, diarrhœa, vomiting, syncope and great prostration occurred. These effects, and others as serious, were produced in different patients; and even the amount of salivation and perspiration also varied in different individuals.

Successful Cases of Blood Transfusion.—Dr. Santero re-

ported two cases of transfusion of blood. One was in the case of a woman who had cancer of the womb. Both cases were successful—both patients leaving their beds on the expiration of the eighth day.

Dr. Ustariz cited four successful cases; but he does not think that the successful results of the transfusions amounted to anything more than palliatives and temporary in cases of cancer.

Dr. Catero held similar views. He does not think transfusion anything more than palliative in persons with haemorrhagic diatheses. In such cases, the use of a very small syringe is the necessary instrument in order to inject blood of the proper temperature, and also because it is more likely by this means to exclude bacteria.

Dr. Montes said that physicians in attendance upon patients were better judges when to use transfusion than those away from patients. No definite rules could apply to all cases. Microscopy and chemistry are important auxiliaries in determining upon the exact treatment to be adopted in individual diseases, while practical experiments form the basis of true progress in medicine.

Hospital Clinics.—(*Revista de Medicina y Cirurgia Practicas Madrid.*) For *Scrofulous Ulcers* of the head, neck, arms and breast, the internal treatment consists of iodide of iron and cod liver oil; externally, iodide of mercury and nitrate of silver are applied.

Syphilitic Ulcers.—Internally, iodide of potash and iodide of mercury; locally, mercurial ointment.

Parasitic Sycosis of the Head.—Rice poultices, depilation and a wash of tar water.

Hemicrania.—Like the treatment of all neuralgias, inhalation of acetic acid vapor for fifteen or twenty minutes.

Chronic Psoriasis.—Forty-five cases were effected by first using prolonged baths until the scales fell off easily, or were easily rubbed off by the finger nail, and then the body was well washed with acetic acid. This, however, produced a smarting sensation for half an hour. It seldom requires more than one bath to effect a cure. Many of the forty-five cases had been subjected to other treatment—as by iodide of potassium, iodide of mercury and arsenic. If the vagina be affected, aromatic wine should be used by injection into the vagina.

Elephantiasis.—Internally and locally by iodine, and by generous diet. Anodyne at night. The dose of the iodine [what preparation?] was gradually increased from 20 to 50

drops. If this did no good, then resort was had to an ointment of the subnitrate of bismuth.

Carcinoma of the Breast.—Extirpation with the knife. Though the immediate result of the operation is beautiful, yet emaciation occurs so rapidly that the patient cannot survive many months.

Proceedings of Societies.

Baltimore Academy of Medicine.

Double Vagina.—Prof. Erich reported a case now under his care, of a double vagina, with two distinct uterine necks, and he believes two distinct uterine cavities, although he has not yet probed to ascertain this. He made the discovery by first getting into the smaller vaginal passage, in which he used forcible dilatation. The next examination, he entered the more ample passage, and was surprised at the apparent success of his previous efforts. Similar cases had been seen by other members of the Academy.

Complete Obliteration of the Vagina.—Dr. J. Norris reported a case of complete obliteration of the vagina, in a lady who had never menstruated. There was no appearance of a raphé between the labia minora, which were thoroughly fixed into each other. An examination exhibited the presence of a well formed uterus of normal size. Several cases of a similar nature were reported as occurring in the individual experience of members; also of cases of an allied nature, in which a blind, short cul-de-sac of a vagina had no vestige of a uterus at its upper extremity.

Pilocarpin in Eye Surgery.—Dr. Chisolm reported his experiences with pilocarpin, the active principle of jaborandi, in eye surgery. Among other cases, he uses it after cataract extractions, to draw the iris away from the incision, and prevent iritic hernia. In twenty cases of cataract extraction, in which he has used it in the last two months, the results have been extremely good. One case, particularly, he reported in which fully three-fourths of the vitreous was lost during the escape of the lens, by spasmodic contraction of muscles. The patient declined using anæsthetics. Dr. Chisolm rarely operates without them. From all past experience, the eye was deemed from necessity a lost one. Pilocarpin was instilled, and the eye bandaged in the usual way. Cold water dressings were constantly renewed, and morphine ad-

ministered three times a day—the patient being kept under its influence. To Dr. Chisolm's very great surprise, the patient did not have any inflammatory sequelæ. The case progressed in every way as if it had been one of the smoothest of cataract operations. Before the expiration of three weeks, the patient had resumed work, reading with ease ordinary print, No. 4 Jaeger test types, with a $2\frac{1}{2}+$ lens. The case is the more remarkable as the cataract had been caused by a blow upon the eye, affecting the nutrition of the lens in a man 27 years of age, and was only of a month's duration, commencing to show its clouding soon after the accident.

Chronic Aural Discharges.—After the recital of cases, the paper for the evening was read by Prof. J. J. Chisolm, M. D., upon the treatment of chronic aural discharges. He spoke first of the recognition of chronic otorrhœa as an opprobrium to the profession. Physicians feeling their inability in the majority of these cases to check the discharges, often recommend that children be allowed to out-grow them, that the physician may, by this advice, escape annoyance. Dr. Chisolm stated that in his experience, cleanliness alone would cure many of the most obstinate, which were kept up by the decomposed matter being allowed to remain in the meatus, excoriating the middle and outer ear. The mistake constantly made was, that physicians did not instruct patients how to cleanse the ear, and that an offensive ear always meant a foul one, regardless of the number of times per day it was syringed. A syringe that worked with one hand (a small bag syringe being the best), and warm water were the cleansing means, provided the outer ear be drawn outward, backward and upward, so as to straighten the meatal passage. After this, the usual astringent prescription of sulphate of zinc and carbolic acid, $\overline{aa}$ grs. iij, to water, ℥j, would be found quite effectual. For the very chronic discharges, Prof. Chisolm has substituted, with marked advantage, desiccating powders for the ear drop; and of all the powders used, he finds alum by far the best. To make the alum powder more volatile, and keep it from caking, he triturates it with a little lycopodium powder, one part to six. Since adopting the treatment of thoroughly cleansing the ear, and then drying it with cotton swabs, and finally, puffing alum powder once a day into the ear, he finds the most rebellious discharges from the drum cavity yield kindly. For the past three years, he has been no longer annoyed by aural discharges, however chronic, and he finds them more amenable to treatment than any other class of chronic affections. One great advantage of the alum

powder treatment is, that an excessive application can do no harm. After a few applications, he has checked aural discharges of many years existence. The most convenient method of applying powders to the depth of the external aural passage, and into the drum cavity, through the large perforation in the tympanic membrane, is by means of an insufflator or puff bottle; a quill would, however, answer the purpose.

Texas State Medical Association.*

The Tenth annual session convened in San Antonio, Texas, April 10th, 1878. Dr. W. D. Kelley, of Galveston, President in the chair; Dr. W. A. East, of Hallettsville, Secretary. The welcoming address was delivered by Dr. F. Herff, of San Antonio, President of the Western Texas Medical Association. This was the first meeting of the Association ever held west of the Colorado.

On motion of Dr. T. J. Heard, of Galveston, a committee of five was appointed to revise the constitution of the Association.

On presentation by Dr. Heard, the following resolutions were adopted and referred to the Health Committee:

Resolved, That we recommend and urge upon our Senators and Representatives in Congress the passage of the bill now pending before that body, entitled "a bill to prevent the introduction of infectious diseases into the United States," the object of which is to establish a national quarantine system.

Resolved, That the plan or system of quarantine contemplated in the bill, embracing in its provisions as it does a central bureau and head officers charged with its administration who are in constant communication with its head and with each other, and furnished with the earliest and most reliable information from the consular agents of the Government of the state of health of localities where yellow fever ordinarily prevails—that such a plan furnishes, in our judgment, the most effective system of quarantine, and the best calculated to secure the greatest protection to the public health against the introduction of yellow fever and other infectious diseases, and at the same time to impose the least restriction upon commercial intercourse compatible with security from such diseases.

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*Compiled from the San Antonio *Weekly Express*, April 11th, 1878.

Dr. A. R. Kilpatrick, of Navasota, during the afternoon session, presented the report of the Section on State Medicine and Public Hygiene. The report gives a brief history of censuses, and shows the importance of taking the same; it next speaks of the origin of quarantine and of hospitals. Near about the end of the fifteenth century the Republic of Vanci established the first Board of Health. In 1504, this "Council of Health" was invested with the power of life and death, and there was no appeal from their sentence. This part of the report is followed by an account of the first quarantine law in this country in 1700, which was due to an epidemic of yellow fever in Philadelphia in 1699. The report next urges that the people should be instructed in hygiene, and in reference to the nature and causes of diseases. The money value of human life and the cost of diseases to a State are calculated from the tables of Drs. Boardman, Folsom and Jarvis, of Massachusetts, as also from the now familiar paper of Dr. Benjamin Lee, of Philadelphia, from the report of the State Board of Health of Georgia for 1876, and from Dr. Ely McClellan's report. The report next notes the epidemics of yellow fever that have swept over the State of Texas. The loss by the epidemic of 1867 to Navasota alone was not far from $500,000. Compulsory vaccination should be urged as a democratic measure. A large part of the report is given to considering the marked difference in the sanitary condition of the colored population during slavery and since their freedom, which shows how improvident and how negligent are negroes of the laws of health.

During the second day, Dr. Heard read the report on Materia Medica and Physiology; and Dr. T. D. Wooten, of Austin, read the report on Surgery and Anatomy—both of which were duly referred.

Mortuary reports were received from various cities and towns of Texas.

The following resolutions, offered by Dr. Thomas D. Wooten, were adopted:

Resolved, That a committee of three be appointed by this Association, whose duty it shall be to memorialize the next Legislature, and take such other action as may be required to obtain the establishment of a Board of Health, and the enactment of such other laws as may be deemed necessary for the better protection of the public health.

Resolved, That every member of the Association exercise his influence in furtherance of the above sanitary and hygienic measure by drawing public attention to the importance of such legislation and the public benefit to be derived therefrom.

A paper was read from Dr. B. E. Hadra, of Galveston, upon the subject of hepatic dysentery. After the reading of the paper a patient, a boy about twelve years of age, was brought to the notice of the physicians.

Dr. George Cupples, of San Antonio, presented the report for the Section on Surgery, contained in 48 folio sheets.

On motion of Dr. John R. Pope, of Marshall, fraternal greetings were telegraphed to the Kentucky State Medical Association, now in session, and sympathy was expressed for the loss of their venerable President, Dr. L. P. Yandell.

Drs. Renfro, R. H. L. Bibb, of Austin, and Cupples read papers—titles not given in the *Express*.

Dr. M. K. Taylor, of the U. S. Medical Department of San Antonio, spoke on inflammation of the lymphatic glands, recommending the use of carbolic acid solution for the treatment of glandular inflammations.

During the third day, Dr. Stanford E. Chaillé, of New Orleans, was welcomed and invited to address the Association.

Dr. Wooten read a paper on Surgery.

A telegram was received from the Kentucky State Association, now in session, sending greeting.

A resolution was passed, appointing a committee of three to prepare a memorial, to be presented to the next Legislature, demanding the repeal of the income tax imposed on physicians and surgeons.

Obituary notices of Drs. G. H. Sayers, John Jones and S. Ross were read.

The following was adopted:

Whereas, It is the sense of this Association, that the duty imposed on the importation of quinine into the United States should be abolished; therefore be it

Resolved, That the President of the Texas State Medical Association be, and is hereby instructed, to appoint a committee of three to petition our Representatives and Senators in Congress to use their influence in abolishing the unjust import duty on this drug.

A committee was appointed to recommend to the people of the State, plans for the construction of family residences after sanitary principles.

The following was adopted:

Resolved, That the Committee on Climatology and Epidemics, to consist of one member from each Judicial District, correspond with the physicians in each county of such district and each district, to report to the chairman in a condensed and well digested paper for final report.

Officers for the ensuing term were elected as follows: President, George Cupples; First Vice President, R. W. White; Second, W. E. Sanders.

Sherman was chosen as the place for the Eleventh Annual Session.

Dr. Kelley, on resigning the chair to his successor, delivered a popular address on general advances in medical science and profession.

Dr. T. D. Manning, of Austin, then read an essay.

Medical and Chirurgical Faculty of Maryland.*

The eightieth annual session convened in Baltimore, on Tuesday, April 9th, 1878. Dr. A. B. Arnold, of Baltimore, President, in the chair; Dr. W. G. Regester, of Baltimore, Recording Secretary.

"The Tenets of Homœopathy" was the subject of the President's address. Because homœopathy is now-a-days putting on the livery of medical reform, and is appealing to the public as the champion of the true healing art, it seems well to review the foundation and structure of that school of practice. [A full-length report of this address is given in the *American* of April 10th; but while it is a valuable paper, so little of interest is felt in the subject in the South, that a reference to the daily paper in which the address may be found in anticipation of the annual publication of the Faculty, is deemed sufficient. In Virginia, we are not aware that of the 1,700 medical practitioners, there are as many as a dozen homœopathic doctors; and in only one of the Southern States, so far as we are informed, is there a larger proportion.—*Note by the Editor.*]

The Corresponding Secretary, Dr. W. F. A. Kemp, in his report showed that there is a decided increase of interest among the country physicians in this organization.

The report of the Treasurer, Dr. Judson Gilman, stated as receipts for the year $1,418.39; disbursements $1,417.48. Total assets of the Faculty $11,420; total liabilities $169.

The Library Committee, through Dr. Taneyhill, reported that during the year about two hundred volumes had been donated to the Library.

Reports of other standing committees were read and ordered to be published.

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*Compiled from the Baltimore *American, Gazette, Evening Bulletin, Daily News, Sun* and *Morning Herald.*

The second day was mostly taken up with the address of Prof. Ira Remsen, of the Johns Hopkins University. His subject was—"The Relation of Chemistry to Medicine."

Dr. Allan P. Smith, of Baltimore, from the Section on Surgery, read a paper on "Lithotomy." He has performed 52 lithotomies in all—all of which have been successful. His patients ranged in age from 21 months to 71 years old. Only two of these patients were colored—the youngest and the oldest. He attributed his success mainly to the use of the lithotome invented by his father, the late Prof. N. R. Smith. Among other cases, Dr. Smith incidentally reported the case of a man with two bladders and double generative organs, upon whom he operated for vesical calculus. The patient is now a healthy married man with family.

Dr. A. Friedenwald, from the Surgical Section, read a paper on "Ophthalmology and the use of Anæsthetics in Operations upon the Eye." He thinks a large proportion of the cases of eye diseases among children, was due to the improper arrangements of seats in schools.

Dr. John F. Monmonier also read a paper relating to some operations on the foot.

The Treasurer, Dr. Taneyhill, reported that Dr. J. J. Caldwell, of Baltimore, had presented to the Library of the Faculty, Pettigrew's galaxy of seventy portraits and biographies of celebrated physicians and surgeons, the only one in America, and also bound copies of the Transactions of the New York Medical Faculty for many years past.

During the *Third Day*, Dr. T. R. Brown read a paper on the Treatment of Urethral Stricture.

Dr. John S. Lynch read a paper on "Medicines Calculated to Produce or Allay Fever." The cold bath is the most direct method of reducing temperature in cases of typhoid, typhus and some of the eruptive fevers, such as varioloid and variola. Quinine, he remarked, had been used very successfully by physicians in Batavia, in small-pox, preventing the eruptive stage, or converting it into mild varioloid. Cold baths and quinine, however, are not judicious or necessary in all cases of fever. Ice, cold water and cold air are the most certain, prompt and manageable of all agents of this class, because the heat of the body can be rapidly reduced and to any desired point. Objections to these means are that the patient becomes uncomfortable, and if applied too suddenly and to too great a degree, produce shakes and are liable to induce congestion. Its best application is only found in cases of sudden but evanescent fevers, in which the nervous system

is threatened with serious injury, and in which the action of other agents would be slow.

Dr. P. C. Williams read a paper on the Use of Chloroform in Obstetrics, holding that it is preferable in such cases to any other anæsthetic. But he does not think a dentist should ever use chloroform, because the upright position of the patient, while under its influence, contributed to the danger of cerebral anæmia.

Dr. S. C. Chew, on the part of the Committee upon Medico-Legal Matters in the President's address of 1877, presented a report, including the draft of a bill to prevent forced disclosures in courts of law, acquired by medical men in attendance upon patients, either as physicians or surgeons, and providing for additional payment of physicians called to testify as experts in the courts. Dr. Chew said the bill had been presented to the Maryland Legislature, and passed the Senate, but failed in the House of Delegates. He was sure, however, that some bill to that effect would soon be passed. The bill was advocated by physicians mainly for the protection of their patients.

Dr. Christopher Johnson said the committee did not mean to stop until their object had been accomplished. The bill had been indorsed by such lawyers as Mr. S. Teackle Wallis, State's Attorney A. Leo Knott, and Isidor Rayner. The committee propose to issue a circular and bring the matter before every physician of the State. The committee was continued in office.

The following were elected honorary members: Dr. J. M. Toner, Washington city; Dr. S. W. Mitchell, Pennsylvania; and Prof. Roberts Bartholow, of Ohio.

Dr. I. R. Atkinson read a paper on New Discoveries in Materia Medica. He enumerated salicylic acid used in acute rheumatism; tayuya, a wonderful specific for syphilis, used by natives of Brazil; curara (Indian arrow poison), used in spasms and hydrophobia, but which he feared was merely a temporary sedative; chrysophanic acid, an Indian remedy for ringworm, but which had the gravely objectionable property of dyeing the hair, skin and linen a dark and very permanent claret color; jaborandi and its alkaloid, pilocarpin, for heart disease, and viburnum prunifolium as a uterine sedative. He advocated the introduction of the metric system of weights and measures by physicians and apothecaries. He showed what wide variations occur in medicines when prescribed by drops or spoonsful; such a glaring fault calls for thorough reform.

Dr. Frank Donaldson, from the Section on Psychology and Physiology, read a highly interesting paper on "Spontaneous Generation." He took the ground that spontaneous generation only existed in the minds of scientific men, because the lower forms of life, as infusoria and bacteria, had not been sufficiently investigated. Bacteria exist in water after it has been boiled at 212° F., for several hours, but their presence was not certain in water thus boiled, unless it had been exposed to the atmosphere, which, it seemed certain, contained the germs from which they originated. Bacteria pervade the atmosphere and dust of hospitals, and often convert them into charnel houses. A surgeon who makes a most successful operation, may find his skill baffled from the influence of this deleterious but minute form of life. Epidemic diseases are the concomitants of parasitic life, too minute to be detected. Tadpoles, caterpillars, and even mice, were once supposed to have their origin in spontaneous generation. The theory is now reduced to a question as to the origin of the lowest forms of vegetable life. Under the lens of powerful microscopes, investigation shows that animalculæ and the most minute animals are bred by parents, and even those once supposed to be without sex have a parentage. He argued against the idea of spontaneous generation.

During the *Fourth Day's* session, Dr. Joseph A. White exhibited a child, about two years old, who had an anomalous intra-orbital tumor, probably cancerous in its nature. Last October, the patient was brought to him for treatment for a swelling under the right eye. This tumor gradually increased and caused protrusion of the eye, the lids of which became so tightly stretched as to prevent nutrition. The tumor was removed, but soon returned, and necessitated the removal of the eyeball. Still the tumor begins to grow, and is now larger than an orange. It has a fleshy appearance, with not a single facial feature to relieve it. It occupies the forehead and almost the entire face. The bones of the face have been pushed aside, and death from pressure on the brain is regarded only as a matter of time. Dr. White believes that only after a post mortem examination can a correct diagnosis be made.

Dr. I. Davis Thompson, Assistant Physician at New Mount Hope Retreat, read a paper on General Paralysis of the Insane. The disease was known in Europe in 1808, but did not appear in this country until 1843. When once established, it increases in frequency in certain localities. During one period in New York city, out of 1,600 deaths, 205 were from this disease. Its victims up to the time of attack are robust,

and are generally men in the prime of life, being rarely either under 30 years of age, or over 60. Women are almost entirely exempt from it. It is caused most frequently by dissipation in early life. The symptoms are both mental and motor, the mind, memory, and personal habits being affected as well as the body powers. The patient, fortunately, is not aware ordinarily of his state, and will assert, when he can scarcely lift an arm, that he never felt better in his life. The causes are overtax of the mind by business or study, or excesses in life, alcoholic or otherwise. Dr. Thompson cited several cases. The disease could only be properly treated in hospitals, where the needed appliances were at hand, and although no cure was possible, much could be done to modify the violence of the disease and add to the comfort of the patient. Death generally results in two years after the inception of the attack, although, in a few exceptional instances, the unavoidable fatal end has been delayed until the sixth year.

Prof. L. McLane Tiffany, of the Maryland University Hospital, described a case operated upon by him in February last, of a colored man, aged about 40 years, who was suffering with a polypus or "growth" in the throat, from the base of the skull downward. The polypus was pear-shaped, about 3½ inches long, and 6 inches through the widest part, and had closed the patient's nostrils, and nearly closed his throat, threatening him with suffocation. It was removed by cutting around the nose, which was then lifted up to the forehead, and sawing asunder the upper jaw, opening the face to enable Dr. T. to operate with the knife upon the "growth." The operation was successful; the jaws were joined to the bones above by wires; the nose replaced and the patient well enough to leave the hospital in less than a month. Such operations are, of course, very difficult. The patient was under the influence of chloroform during the operation, and came near suffocating several times from the pressure of the polypus upon his throat and from the flow of blood. Free breathing ceased for a short time, but he was resuscitated. It was found necessary to insert a tube in his throat to enable him to breathe.

Papers were read by Dr. William Lee on "Differential Diagnosis of Diphtheria and Membranous Croup;" Dr. John Van Bibber on the "New Treatment of Chorea;" Dr. John R. Uhler on "A Simple Means of Estimating Urea;" and Dr. A. F. Erick on a "Double Vagina."

The following officers were then elected for the ensuing year: President, Dr. Samuel P. Smith, of Cumberland; Vice

Presidents, Drs. J. C. Thomas and L. McLane Tiffany; Secretary, Dr. W. G. Register; Assistant Secretary, Dr. G. Lane Taneyhill; Corresponding Secretary, Dr. J. Edward Michael; Treasurer, Dr. Judson Gilman; Board of Examiners, Western Shore, Drs. J. S. Lynch, Charles H. Jones, T. R. Brown, John Whitridge, T. S. Latimer, Thomas B. Evans, and H. M. Wilson; Eastern Shore, Drs. W. G. G. Wilson, Easton; A. H. Bayley, Cambridge; James B. R. Purnell, Snow Hill; Julius A. Johnson, Easton; J. E. M. Chamberlain, Easton.

Delegates to the American Medical Association, Buffalo, N. Y., on the first Tuesday in June: Drs. Thomas B. Evans, George A. Hartman, John J. Caldwell, John W. Correll, L. M. Eastman, W. T. Howard, J. W. Houck, J. Shelton Hill, J. T. Wilhelm, W. A. B. Sellman, Charles O'Donovan, Thos. Opie, W. R. Monroe, Julius A. Johnson, Randolph Winslow, J. Robert Ward, G. Ellis Porter, W. F. A. Kemp, John R. Krozier, J. Edwin Michael, and E. P. Irons.

Committee on Metric System: Drs. I. E. Atkinson, S. C. Chew, T. R. Brown, A. Friedenwald, S. P. Smith, James C. Thomas, and L. McLane Tiffany. On Revision of Pharmacopeia: Drs. S. C. Chew, John R. Uhler, and D. W. Cathell. To Memorialize Congress in Regard to the Catalogue of the Army Medical Museum: Drs. Christopher Johnston, John Morris, John S. Lynch, P. C. Williams, and A. B. Arnold. Dr. John Morris was appointed Curator.

South Carolina State Medical Association.*

The 28th annual session convened in Greensville, Tuesday, April 9th—Dr. J. F. M. Geddings, of Charleston, President, in the chair; Dr. Henry D. Fraser, of Charleston, Secretary.

After the report of the Committee on Credentials, showing the presence of thirteen delegates, besides a number of permanent members, Dr. Geddings delivered his presidential address. After making a well-deserved and most appreciative notice of the late Dr. A. P. Wylie, of Chester, he announced as his subject, "The Influence and Responsibility of the Medical Profession." He animadverted upon the declining influence of the faculty of the State, which he thought was owing entirely to the want of concerted action, and that intelligent unity of purpose so necessary to beget power, and to afford the ready means of efficient usefulness. He also commented with much force on the recent effort of the As-

*Compiled from *Speight's Daily Newspaper*, of Greensville, S. C., and from private letters.

sociation to secure a State Board of Health, and deplored the defeat of the measure in the Legislature. The address throughout was eminently practical, manfully outspoken and attracted profound attention.

The report of the Committee on State Medicine and Public Hygiene (made by Dr. Manning Simons, of Charleston), showed most conclusively the unfortunate remissness of the Legislature in failing to establish a State Board of Health. It is spoken of on all hands as a masterly paper.

Dr. Simon Baruch, of Camden, moved that the report be received and referred to the Publishing Committee. Dr. F. F. Gary moved as a substitute, that this able and important paper be discussed by the Association as a committee of the whole—carried. After a number of speeches in favor of the report, it was adopted.

Resolutions offered by Dr. Geddings, and adopted, call upon the profession to exert their individual and collective influence upon the Legislature to establish a State Board of Health, and also for a committee to draft a proper bill and present it to the Legislature.

Dr. Francis L. Parker's (of Charleston) resolutions, which were adopted, require the Publication Committee to have — copies of Dr. Simons' report printed for distribution to legislators; that the Governor be requested to call the attention of the Legislature to the subject; that the bill to be prepared by the committee be published in the Charleston papers, and in as many others as possible, so as to bring the subject before the people.

An amendment offered by Dr. Baruch was adopted, to the effect that so much of the report of the Committee on Hygiene of 1877, be incorporated as may interest and influence the public.

On motion of Dr. Baruch, the amendment to Article V, Section 1 of the Constitution of 1874, referring to the annual election of President, was abrogated.

Dr. P. A. Wilhite, of Anderson (who is so intimately connected with the discovery of surgical anæsthesia), was proposed as a permanent member, and his name duly referred to the Committee on Ethics.

Dr. Baruch read a report on the President's address of last year, which was adopted. One of the resolutions offered in this report expressed unwavering adherence to the Code of Ethics, and opposed any change in its provisions; another resolution related to the method of increasing the membership of the Association.

Dr. Manning Simons presented a report of a successful operation for artificial anus in a case of imperforate rectum.

On motion of Dr. G. E. Trescott, of Greensville, the report was referred to Publication Committee.

Dr. W. H. Nardin, of Anderson, exhibited a vesical calculus, weighing 7½ ounces, which he had removed by the lateral operation. Dr. Nardin was requested to write out the history of the case for publication.

Dr. R. F. Divver, of Anderson, presented a polypoid tumor, weighing 3½ pounds, and 8 inches in diameter, which he had removed from the anterior neck of the uterus.

The Committee on Ethics, through Dr. Parker, reported the following as permanent members: Dr. J. A. Robinson, Abbeville; Dr. J. T. Earle, Dr. J. H. Maxwell, Dr. E. F. S. Rowley, Dr. W. R. Jones, Greensville; Dr. J. E. Todd, Laurens; Dr. R. F. Divver, Dr. P. H. Wilhite, Anderson; Dr. H. M. Stuart, Dr. A. P. Prealeau, Beaufort.

The general report on Ethics was then made. A long discussion on motion to receive the report as information ensued. The question was, Whether a physician, in good standing, should be admitted to membership in the State Association or not? Dr. Kinloch held to the "regular" manner of electing members. Dr. Geddings and others, on the other side, appealed to the necessities and welfare of the Society, and carried their point by a vote of 15 to 5. The qualification for membership now amounts to respectability in the profession, and does not hinge upon the membership of a county society.

During the morning session of the second day, the Secretary read a letter from Dr. R. L. Brodie, of Charleston, with a memorial to Congress from a Convention held in Jacksonville, Florida, petitioning for better quarantine regulations. This Association was asked to endorse the memorial.

Dr. R. A. Kinloch, of Charleston, opposed hasty consideration, but moved that a committee should be appointed with discretionary powers. He was not in favor of national interference with local affairs.

Dr. A. S. Hydrick, of Orangeburg, remarked on the quarantine laws, showing, as he thought, that the National Government had nothing to do with the matter, and that it was an entering wedge to turning over the quarantine business entirely to the National Government.

Dr. Simons thought the State able to manage its own quarantine affairs if the Government will furnish the money.

Dr. Kinloch's motion was carried. Drs. Kinloch, Hy-

drick, Simons, James McIntosh (of Newberry), Brodie and Baruch were appointed as committeemen.

Dr. F. F. Gary, of Abbeville, offered the following, which were carried, after some well-timed remarks, showing the effect on the general health of the country by cutting down the forests:

Resolved, That we recognize the beneficial results that will accrue from a well-devised system of laws upon the forestry of the United States, as a necessity of advanced civilization, in mitigating the rigors and sudden changes of climate, and as a consequence, the diminution of disease.

Resolved, That a copy of this resolution be sent to our Representatives in Congress, with the request to aid in securing the passage of such a law.

Committee: Drs. Gary, Russell, Nardin, Marshall and Maxwell.

Dr. O. B. Meyer, Jr., of Newberry, exhibited a stone removed by his father a year ago, history of which will be found in the *Charleston Medical Journal*. It weighs 2⅝ ounces. Thanks were tendered to Dr. Meyer.

Dr. Baruch presented resolutions on the death of Dr. A. P. Wylie, of Chester, supplementing them with appropriate remarks.

Dr. Meyer, Jr., read a report of a case of opium poisoning which recovered under treatment by hypodermic injection of belladonna. Referred.

Dr. Baruch, after relating a case, made some remarks on the antagonistic or antidotal effects of atropia in cases of opium poisoning. The point was discussed by Drs. Nardin, Meyer, Hydrick, Wilhite and McIntosh.

Dr. Baruch reported a case of traumatic lesion of the iliac artery, and also a case of wound of the internal jugular vein in a child—both with successful issues. Referred.

Dr. Andrew Wallace reported a case of vesico-vaginal fistula, and also a case of gunshot wound through the head. Referred.

A request from Dr. T. T. Robertson, of Fairfield (not in attendance), that a committee be appointed to report at the next session on "Euthanasia," was referred to a committee composed of Drs. Geddings, Kinloch and Gary.

During the afternoon session, Dr. Baruch presented a paper on the "oxytocic effect of quinia," which, after discussion, was referred.

Dr. Manning Simons presented a "Note on the Epidemic of Yellow Fever at Port Royal in 1877." Referred.

Dr. Baruch offered a preamble and resolutions setting forth and urging the Association to recognize the valuable services rendered to suffering humanity by Drs. Manning Simons and T. Grange Simons—the former went as a volunteer to Port Royal, and the latter to Fernandina to succor those pestilence-stricken communities. Carried after considerable debate.

Dr. F. L. Parker, of Charleston, presented an eye with calcification of the choroid. On motion, Dr. Parker was requested to publish the report of the case.

Dr. G. E. Trescott moved that a committee of five be appointed to report on the effects of physical science on modern medicine. Carried. Drs. Trescott, McIntosh, T. G. Simons, Maxwell and Nardin were appointed.

On nomination by the committee, the following were elected officers for the ensuing year: Drs. S. S. Marshall, Greensville, President; F. L. Parker, Charleston, J. P. DuBose, Edgefield, J. J. Horton, Kershaw, Vice-Presidents; H. D. Fraser, Corresponding Secretary; T. G. Simons, Treasurer; A. S. Hydrick, Recording Secretary.

Delegates to the American Medical Society: Drs. F. F. Gary, J. Baruch, W. T. Russell, J. F. M. Geddings, W. H. Nardin, George E. Trescott, T. E. Todd, Manning Simons, John M. Thompson, W. H. Geddings, H. D. Hicnitsh, O. B. Meyer. Alternates: J. B. Robinson, T. T. Earle, M. J. D. Dantzler, H. M. Stuart, R. F. Divvers, E. F. S. Rowley, George Howe, Jr., J. F. Pearce, A. A. Moore, C. H. Ladd, J. S. Hughson, C. B. Lanneau.

Delegates to Virginia Medical Society: Drs. M. Sharpe, J. H. Foster.

To Ohio Medical Society: Drs. J. F. Pearce, E. E. Jenkins, John Lynch, B. W. Taylor, J. A. Watson.

To Georgia Medical Society: Drs. F. P. Porcher, W. T. Russell, T. G. Croft.

On motion of Dr. H. D. Fraser, Charleston was selected as the place, and the second Tuesday in April, 1879, as the time for the next annual session.

Dr. Geddings moved that the Corresponding Secretary be requested to send list, and to address a letter to all the county societies, requesting that full lists of their officers, etc., be sent to him for transmittal to the librarian of the American Medical Association. Carried.

Florida State Medical Association.

The Association convened in Jacksonville, April 10th.

The President's table was dressed in crepe in memory of Dr. F. P. Wellford, the deceased President. The Secretary, Dr. J. Y. Porter, of Key West, in the absence of all of the vice-presidents, called the meeting to order. Dr. T. M. Palmer, of Monticello, was elected President *pro tempore*.

As a mark of respect to the memory of the late President of the Association, Dr. Wellford, the Association adjourned until the afternoon.

During the afternoon session, appropriate resolutions and eulogies relating to Dr. Wellford were made.

A communication from the Key West Medical Society recommended the adoption of an annual prize scholarship in some reputable medical College, to be known as the "Wellford Scholarship Prize."

The Committee on Incorporation reported that there had been no legislative session since the adjournment of the Association last year; but the act of incorporation will no doubt be passed as soon as the Legislature convenes.

A committee from the Duval County Medical Society recommended that a monument be erected to the memory of Dr. Wellford. Agreed to. Drs. J. C. Kenworthy, A. S. Baldwin and R. P. Daniel, each of Jacksonville, were appointed a Committee on Monument. The scholarship proposition of the Key West Society was also referred to this committee.

Dr. C. Drew, of Jacksonville, read a paper on Ozone, for Dr. J. Dabney Palmer. Referred for publication.

Dr. Baldwin read an elaborate paper on Disinfectants. Referred for publication.

On the *Second Day*, the report from the committee on Endemic Diseases was read and referred.

Dr. Daniel read an elaborate report on yellow fever in Jacksonville last fall. A map of the city showed the infected district. The report contained sub-reports from Drs. Knight, C. Drew, J. D. Fernandez, J. D. Mitchell and E. T. Sabal, of Jacksonville. Dr. Daniel believes the disease was of local origin. Report referred for publication.

Dr. C. W. Horsey, of Fernandina, reported exhaustively on the yellow fever epidemic last fall. His conclusion was that the disease was imported. Referred for publication.

Officers Elected.—Dr. R. D. Murray, of Key West, President; Drs. A. L. Randolph, of Tallahassee, and C. W. Horsey, of Fernandina, Vice-Presidents; Dr. J. Y. Porter, of Key West, Secretary; Dr. J. D. Fernandez, Jacksonville, Treasurer.

A paper from Dr. Hargis, of Pensacola, contended for the importation theory of yellow fever, and that the disease, so far as Florida was concerned, is never of local origin. Referred for publication. Dr. J. H. Randolph, of Tallahassee, submitted a paper on yellow fever, which was referred to the Publishing Committee.

Dr. J. H. Kimball, of St. Augustine, read a brief account of the yellow fever epidemic in his town last fall. He believes it was of local origin. Referred to Publishing Committee.

At night, Dr. J. C. Kenworthy delivered the annual address to the public and profession. The title of his address was, "Go, heal the sick."

During the *Third Day*, Dr. E. T. Sabal read a letter from Dr. John P. Wall, of Tampa, advocating the formation of a State Sanitary Association, composed of men of all vocations.

On motion of Dr. Kenworthy, Drs. Daniel, Horsey, Kimball and R. D. Murray [of Key West] were appointed a committee to draft a series of resolutions regarding the origin, introduction and prevention of yellow fever.

After a discussion of the subject of yellow fever, participated in by Drs. Baldwin, Robinson, Murray, Daniel, Kenworthy, Kimball, Horsey, Sabal, Palmer and Drew, the committee above appointed submitted the following report—Dr. Murray dissenting:

1. While abundant evidence exists of the importation of the yellow fever poison, yet grounds are not wanting to make it highly probable that yellow fever may also be of local origin, if suitable atmospheric and tellural conditions exist.

2. That it is susceptible of transportation by vessels, persons, or things from one locality to another.

3. That the clothing of infected persons or of healthy persons having communicated with infected places or persons may impart infection to other places or persons.

4. That infected persons may infect other persons or places.

5. That if places were movable like persons (which is literally true of ships) on being infected, they would impart the disease to other places in sufficiently close proximity.

6. That if introduced into a locality where favorable sanitary conditions exist, its propagation and extension is not probable.

7. That it is absolutely necessary that perfect sanitation at all seasons should be enforced in every southern city.

8. That all vessels arriving from any port in the West In-

dies, South America north of the 40th degree of south latitude, or from the west coast of Africa during the summer or autumnal months, be thoroughly disinfected and subjected to a quarantine of thirty days.

9. That the landing of ballast from any vessel from any of the above ports be strictly prohibited.

The resolutions were adopted, three members voting in the negative.

The President appointed the following delegates to American Medical Association: Drs. R. P. Daniel, J. M. Carn, A. J. Wakefield, E. T. Sabal and J. A. Davidson.

Orator for next meeting: Dr. J. H. Kimball.

The following, offered by Dr. Sabal, were adopted:

Resolved, That the Committee on State Board of Health be instructed to continue their labors, and that the previous action of this Association on the subject be confirmed.

Resolved, That the Committee on Incorporation be directed to prepare an act of incorporation for this Association, and use their endeavors to secure its passage by the next General Assembly.

The following, offered by Dr. Sabal, was adopted, after considerable discussion, by a vote of 8 to 3:

Resolved, That a special committee be appointed to draft a revision or a substitute of the laws governing the practice of medicine in Florida, and instructed to present it for action by the Legislature.

Committee: Drs. Sabal, Wall, Phillips, Belton and Kenworthy.

Adjourned to meet in Jacksonville on the third Tuesday of April next.

Georgia Medical Association.*

This Association convened in Atlanta, Wednesday, April 17th, 1878. The retiring President, Dr. Robert Battey, of Rome, called the meeting to order, and after prayer resigned the chair to the President elect, Dr. W. O'Daniel, of Trigg county; Dr. James B. Baird, of Atlanta, Secretary.

The President's address urged the establishment of a State Board of Health, and the importance of receiving State aid for maintaining such a Board.

The Committee on Revision of Constitution, etc., recommended that the initiation fee be $5, and that regular mem-

*Compiled from the *Daily Constitution*, Atlanta, Ga.

bers attending the sessions be charged $2 annual dues, and that those who do not attend, but receive the published proceedings, pay one dollar each. Adopted.

Under call for reports from sections, Dr. R. B. Doster reported a successful result of amputation of the leg for necrosis of thirty-four years' standing. Dr. G. J. Grimes read a paper on tubercular meningitis. Dr. A. W. Griggs reported four cases of dysperennia; a case of anteflexion of the uterus of five years' standing treated successfully by electricity; also a case of rupture of the uterus where the child was delivered without the aid of forceps, and several other cases. Dr. W. A. Love presented a paper on obstructive dysmenorrhœa. Dr. J. L. Harris reported a case of fistula in and caused by the lodgment of a chicken bone in the rectum. Dr. A. Mathias reported a case of abdominal dropsy which had been tapped ninety times.

Among voluntary papers presented were: Diagnostic value of the soft palate, as compared to the tongue in certain diseases, by Dr. W. A. Love; Yellow fever, by Dr. J. L. LeHardy; Neuralgia and its modern therapeutics, by Dr. James B. Baird; Puerperal eclampsia, by Dr. Henry Gaither; One hundred and five operations for strabismus, by Dr. A. W. Calhoun; Blood-letting, by Dr. Chas. Rauschenberg; Non-syphilitic psoriasis, by Dr. Stout; True physician, by Dr. T. S. Powell; Certain diseases of the uterus, by Dr. V. H. Taliaferro; Saccharated medicines, by Dr. W. A. Love; Corn-stalk pith as a material for uterine tents, by Dr. W. T. Goldsmith. Dr. Griggs reported two cases of tubercular meningitis in support of Dr. Grimes' paper on that subject. Dr. Baird read a paper on Neuralgia. Dr. Stout spoke of the value of veratria ointment as a local application for the relief of neuralgia. Prof. Means made some remarks on electricity.

During the *Second Day*, the following volunteer papers were presented: Sloughing of the uterus, by Dr. W. G. Drake; Obstinate cases of hiccough, by Dr. J. B. Roberts; a remarkable case of gunshot wound of the spine, by Dr. J. G. Thomas.

On presentation by Dr. W. R. Burgess, it was resolved that a committee shall memoralize the next Legislature to enact laws providing for the compensation of physicians who serve as experts in courts.

The annual oration was by Dr. W. R. Burgess, on "Hasty, Unwise and Unfortunate Medical Literature." Thanks were voted.

During the *Third Day*, Dr. C. B. Leitner presented a paper on application of tar bandages.

Dr. H. Smith read a memorial to the next Legislature, asking that special taxes on physicians be removed. The President appointed one member from each of the fourteen districts, and five from Atlanta to assist Dr. Smith's committee in securing the passage of the act.

Dr. W. F. Westmoreland gave a verbal outline of his paper on congenital phimosis with adhesion of the prepuce.

The following are the officers elected: President, Dr. J. T. Johnson, Atlanta; Vice-Presidents, Drs. W. F. Holt, of Macon, and T. H. Kennon, of Milledgeville; Secretary for five years, Dr. James B. Baird, Atlanta; Treasurer for five years, Dr. W. R. Burgess, Macon; Orator for next session, Dr. E. H. Richardson, Cedartown; To fill vacancy on Board of Censors, Dr. G. W. Holmes.

Rome was selected as the next place of meeting on third Wednesday of April, 1879.

During the afternoon, Dr. A. S. Campbell read a paper on pneumatics and displacements.

Dr. W. A. Love presented a report of a case of lateral version of the uterus caused by wearing for eighteen months a glass-globe pessary, two and a half inches in diameter. Difficulty of removal from having become imbedded in an adventitious sac; Subsequent treatment, and successful result.

Abingdon Academy of Medicine.—At the regular annual meeting the following officers were elected for the ensuing year: Drs. J. S. Apperson, President; R. J. Preston, 1st Vice-President; James W. Ogden, 2d Vice-President; Geo. E. Wiley, Recording Secretary; W. F. Barr, Corresponding Secretary; H. M. Grant, Treasurer.

The next meeting will be held at Dr. William L. Dunn's, Glade Spring. Subject for discussion: "Typhoid Fever."

Delegate to the Medical Society of North Carolina: Dr. E. M. Campbell. To the American Medical Association: Drs. W. F. Barr, Wiley and Alderson.

The following were elected Honorary Fellows: Drs. Samuel Dunn, Glade Spring; J. S. Wellford and Hunter McGuire, Richmond, Va.; William Selden, Norfolk; Thomas and Whitehead, of North Carolina; Horatio R. Storer, Boston, and Robert Battey, of Georgia.

Analyses, Selections, &c.

New Apparatus for Potts' Disease of the Cervical Vertebræ. Dr. Wallace Blanchard, of Chicago, in the April number of the *Chicago Medical Journal and Examiner*, describes an apparatus for the treatment of *cervical* spondylitis, that "for efficiency, has far exceeded his expectations."

In this disease, the carious bodies of the vertebræ give way, and the transverse spinous processes, from their posterior position, tip the head forward, till, as the disease advances, the chin may rest upon the chest. Any force, as Dr. Sayre teaches, that carries the head backward, causes the transverse processes (which are seldom diseased) to serve as the fulcra for removing the pressure from the diseased body of the vertebra—the density of their structure rendering them equal to the support of any reasonable weight.

Dr. Blanchard describes his apparatus as follows: Take a plaster-of-Paris mold of the back, and from that a plaster cast, quite thick and strong. Soak a piece of "skirting" (a form of sadler's leather dressed without oil and very stiff) in water for a day, and then bind it firmly and closely to the cast, using thirty to forty feet of small sized rope for the purpose. When dry, this leather presents an exact contour of the back. Have steel strips riveted to this leather splint in such a way as will support it best; line the inner surface with chamois skin, and to each side, sew an apron of light, pliable leather in such a manner that it may be laced over the abdomen. Support a pad for the occiput on an arch formed by the joining of two steel strips that pass down over the back splint, and are there secured in such a manner as to be raised or lowered to any desired position, and there held by set-screws. Upward and backward from the occipital pad for three or four inches, extend a single strip of steel supporting two buckles, supplied with a band to pass around the head. Place the splint in its position on the back, with a light linen or cotton shirt next to the body, and lace the apron over the abdomen as tightly as can be borne with comfort by the patient. Add straps over each shoulder, only tight enough to steady the splint, and be sure that the splint extends high enough over the shoulders so that there shall be no downward pressure. The accuracy with which it fits every inequality of the back makes it quite immovable. The occipital pad should now be in such a position that considerable force shall be required in

lifting and carrying backward the head so as to place the occiput on the pad, with the chin somewhat elevated; then buckle the strap over the forehead, and the apparatus is applied as represented in the cut.

Fig. 1, occipital pad, serving as a fulcrum on which to raise the head. Fig. 2, slots and set-screws by means of which the occipital pad is set at the required position. Fig. 3, apron, laced in front.

The head is now firmly supported, and in such manner that if there should be any excess of weight not carried by the instrument, it is taken *entirely by the transverse processes.*

Dr. Blanchard first applied this apparatus to a girl of five years. On his first visit, he found her sitting on the bed,

supporting her head with her hands, and this had been for several weeks her almost constant position. There was considerable projection of the spine of the fourth cervical vertebra; she was pale and emaciated; exhibited nervous symptoms, and complained constantly of pain in the neck and throughout the thorax. The application of the apparatus almost immediately relieved the pain. On a mild nutritive tonic treatment, she progressed so rapidly that at the end of a month Dr. Blanchard felt safe in letting her return home. A year after, the family physician considered her cured, and discontinued the instrument.

Dr. Blanchard's second case, a boy of seven years, under the use of the apparatus, improved, and recovered in the same manner as the first.

The third case, a boy of ten years, had a slight projection of the spines of the last cervical and first dorsal vertebræ, with considerable pain and asthenia. A month after the apparatus was applied, he had so far improved that it was considered safe to let him return home. With his coat and cap on, this boy passed along the street without attracting the least attention to the fact that he was wearing a mechanical appliance.

In rotary-lateral curvatures, and advanced Pott's disease, below the level of the axillæ, Dr. Sayre's plaster jacket is undoubtedly the most efficient treatment yet devised. But in Pott's disease, in the lower half of the column, when the curvature is direct and not very marked, Dr. Blanchard prefers, after extension, to apply a steel-supported leather back splint, as described, for the base of the apparatus for cervical Pott's disease, cutting a fenestrum of size sufficient to obviate pressure at the point of disease, and padding the shoulder straps, which are to be buckled tightly over the shoulders. The patient can in this way be held in a nearly or quite perfect position, with immobility secured, and all the weight transferred from the bodies of the diseased vertebræ to their transverse processes.

The back splint used in this manner, originated, Dr. B. thinks, with the late Dr. J. S. Sherman, of Chicago, though Dr. Adams, of London, described a somewhat similar support about the same time that this was introduced.

Dr. Edmund Andrews tells Dr. Blanchard that his chief concern while using Dr. Sayre's jury-mast apparatus on young patients, has been their liability to slip the straps that pass under the jaw, so as to produce strangulation.

Editorial.

Homœopathy has received a check recently in the New York County Medical (Homœopathic) Society. It seems that one of the planks of the platform has been knocked out, and, with the exception of the want of a concession to this effect, it appears as if the homœopaths of that Society are "coming over." Dr. J. W. Dowling, Dean of the New York Homœopathic Medical College, fearing that his remarks on February 8th, 1878, in his County Society had been misconstrued, and wishing to re-affirm his "faith in the principles of cure peculiar to" his school, writes an explanatory letter, published in the April number, 1878, of the *Homœopathic Times*. He says: "In other words, *to quote from the resolutions*,* I claim the inviolable right to make practical use of any established principle in medical science, or of any therapeutical facts founded on experiments, and verified by experience that shall, in my judgment, tend to promote the welfare of those under my professional care."

We are not aware that any member of the *regular* profession makes any other claim. "Experience and observation" are the basis of practice of the regular profession, allowing members to resort to *any* agent in any dose that tends to cure disease—whether the explanation of the action of that agent appears to be upon the theory of *similia similibus curantur*, or the opposite.

We of the South feel no special personal interest in the discussion. There are so few homœopaths amongst us that practically we do not feel their influence. We note the above fact simply as an "item." The theory of the Hahnneman School—a universal law of *similia similibus curantur*—is so opposed to every day observation that it would be an offence to the intelligence of our readers to undertake a discussion in our columns—even for the benefit of those we believe to be honestly confirmed in their delusion.

Writer's Cramp.—A Circular of Inquiry has just been issued by Dr. George M. Beard, 41 W. 29th Street, New York, N. Y., to sufferers from writer's cramp or analagous conditions, such as the cramp of pianists, telegraph operators, etc.

*These resolutions were adopted by the New York County Homœopathic Medical Society on February 8th, 1878, "by an overwhelming majority, but one member present voting in the negative."

Should any fact of importance be brought out, by this investigation, we are sure Dr. Beard will contribute the result of his inquiries to the profession. Hence, we call upon all who have or know of cases of any kind of the conditions, to send to Dr. Beard for circular blanks to be filled by parties afflicted.

The Hygeia Hotel, Old Point Comfort, Va. (a full advertisement appears in our columns), is the most delightful and healthful sanitarium that we know of anywhere; and we are glad to know, too, that it is also one of the most popular in the United States. It has visitors from nearly every State in the Union. All the benefits of sea-bathing are furnished, and every courtesy possible is shown visitors by the proprietor, who is familiar with the wants, and quick to provide for the needs of his guests.

The Obstetrical Gazette is the title of a monthly journal of 48 pages (size and style of the *Popular Science Monthly*) to be begun in Cincinnati, O., about July 1st, 1878. "It will be devoted exclusively to the cultivation and promotion of knowledge in obstetrics, gynæcology and diseases of children. E. B. Stevens, A. M., M. D., for eighteen years editor of the Cincinnati *Lancet and Observer*, Editor. Terms, $3 a year. Subscription may be paid on receipt of first number.

Rhode Island State Board of Health.—On April 13th, 1878, the last day of the session of the Legislature of the State of Rhode Island, the bill to establish a State Board of Health was passed. The Governor is committed to the signing of the bill, so that it is now a law of the State. The credit of getting this bill through the Legislature belongs for the most part to the able Secretary of the State Society, Dr. W. E. Anthony, of Providence, who would make a most efficient Executive Officer of the Board.

Dialyzed Iron for Arsenical Poisoning has again been successful. Dr. G. Miles Arnold, of New York city, reports a case in the *Medical and Surgical Reporter*, April 27. Wyeth's preparation was used. He very properly suggested that all physicians should have a bottle of the preparation on hand to meet emergencies which may arise at any moment.

The Medical Society of the State of West Virginia will hold its next annual meeting at Weston, Lewis county, on Wednesday, May 22d, 1878, commencing at 9 A. M. The change to the above date has been made after due consultation. Dr. M. F. Hullihen, Wheeling, W. Va., Secretary.

Surgical Section—American Medical Association.—At the session to convene in Buffalo, New York, June 4th, 1878, the following papers will be presented before the surgical section: Address by Dr. Henry H. Smith, Chairman of the Section, "*On Certain Points in the Pathology of the Bones, including Tubercles.*" "*Disease Germs, their Nature, Origin and Relations, in cases of Wounds,*" by Dr. B. A. Watson, Jersey City. "*Septicæmia after Resections,*" by Dr. D. H. Weeks, Portland, Me. "*Tracheotomy without Tubes,*" by Dr. Henry A. Martin, Boston. "*Identity of Hospital Gangrene with Diphtheria,*" by Dr. John T. Carpenter, Pottsville, Penn. "*Permeability of Entire Alimentary Canal by Enemata with some Surgical Applications,*" by Dr. Robert Battey, Rome, Ga. "*Irritation of the Metatarso-Phalangeal Articulation in Valgus of the Great Toe,*" by Dr. Frank H. Hamilton, New York. "*The Process of Repair in Wounds with and without Antiseptic Treatment,*" by Dr. Frederick Hyde, Courtland, N. Y. "*Extirpation of the Thyroid Gland,*" by Dr. Julius F. Miner, Buffalo, N. Y. "*Fractures at the Wrist,*" by Dr. John H. Packard, Philadelphia, Pa. "*Pathology and Treatment of Cancer,*" by Dr. Theodore A. McGraw, Detroit, Mich. "*Perityphilitic Abscess,*" by Dr. D. M. Clay, Shreveport, La.

Owing to the distant residence of the Secretary, Dr. Easley, he requests that all papers to be presented in the session of the Section be forwarded at an early hour to Dr. Henry H. Smith, Chairman of the Surgical Section, No. 1806 Spruce st., Philadelphia.—*Buffalo Med. and Surg. Jour.*, April, 1878.

Dr. Nathan Bozeman has been elected to fill the vacancy on the medical staff of the Women's Hospital, New York, occasioned by the death of Dr. E. R. Peaslee.

Obituary Record.

Dr. Joseph B. Whitehead, of Norfolk, Va., died at his residence, April 9th, 1878, aged 40 years. He was born in Nansemond county, Va. After the war, he graduated at one of the Philadelphia Medical Colleges. He was twice elected Health Officer of the port of Norfolk, and physician to the City Almshouse. As a true citizen of Virginia, a worthy practitioner, and a useful member of the Medical Society of Virginia, his memory will long be cherished. The Norfolk Medical Society, through its committee composed of Drs. Samuel Selden, W. J. Moore and H. M. Nash, have recorded touching resolutions.

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Original Communications.

ART. I.—**Certain Symptoms of Nervous Exhaustion.** By GEORGE M. BEARD, M. D., Fellow of the New York Academy of Medicine, Member of the American Neurological Association, etc. (Read before the New York Academy of Medicine, April 4th, 1878.)

Under the term, *Neurasthenia*, (*νευρον*, nerve; *α*, privative; and *σθενος*, strength (lack of nerve strength), I described a number of years ago* a functional nervous disease of modern, and largely, though not entirely, of American origin. It is a malady that has developed mainly during the last half century, although scattering cases appeared before that time. At present, in the Northern part of this country, this disorder is exceedingly frequent, and is the cause of much distress; and yet, like many other important and interesting phenomena of the nervous system, it has been neglected by the profession, and abandoned utterly to tenth-rate popular medical treatises, and the advertisements of charlatans.

Neurasthenia—poverty of nerve force—is to be distinguished from simple anæmia—poverty of blood—with which it is frequently combined; and also from hysteria to which it often leads. One may be nervously exhausted without being anæmic. Some of the worst sufferers are full-blooded and fleshy, and of considerable muscular development; indeed, some of our noted athletes have been afflicted in this way.

*In a paper read before the New York Medical Journal Association, in 1869, and subsequently published in Beard & Rockwell's *Medical and Surgical Electricity*, first edition.

Neurasthenia is also to be distinguished from the numerous organic diseases with which it is so often, though not necessarily, associated. It is a type of a very numerous class of functional nervous diseases—that is, diseases, the pathology of which cannot be directly studied by the senses, but must be reasoned out deductively. The nervously exhausted state may, indeed, both follow and precede numerous other maladies, not only of the nervous system, but of special organs, and may accompany other diseases; but it is none the less a disorder of itself, and has an array of symptoms peculiar to itself.

Electricity in the general and central methods of application, is one of the very best of remedies for this form of nervous disease; consequently, the cases, so to speak, drift toward those who use this method of treatment. From the first year of my practice, I have seen this class of cases, and treated them, and, as the course of treatment is usually somewhat protracted—at least requiring a number of visits—the opportunity afforded me for the investigation of the symptoms and course of the malady in different varieties of constitutions has been universally good.

I soon found that the literature of this disease was of little worth—in fact, that it had little or no literature at all.* In order, therefore, to learn its nature and its symptoms, it was necessary to study the cases by themselves, taking notes of their histories and progress, with no other guidance than that obtained from my own preceding observations of similar cases, and occasional hints from physicians with whom I saw the patients in consultation, or by whom they were referred to me.

Some of the symptoms that I shall here describe, are somewhat familiar to all medical men everywhere; others are familiar only to those who give their time chiefly to the nervous system—and others still are here described for the first

*Dr. Austin Flint, Sr., in his *Practice of Medicine*, has a very short chapter on "Nervous Asthenia;" and my own paper was substantially republished in London, in Dr. Hugh Campbell's work on "*Nervous Exhaustion*," with but little additional matter. Dr. Weir Mitchell, of Philadelphia, has recently published a clinical lecture on the subject. Dr. J. S. Jewell, of Chicago, has also discussed the subject suggestively, though not systematically, in able review articles, and in a contribution to the American series of *Clinical Lectures*.

time. Some of these symptoms are of such a positive character, and so frequent, as well as peculiar, that they give names to diseases, and for convenience sake, are spoken of as diseases, although they are but manifestations of the neurasthenia. I present the symptoms without regard to logical order.

Tenderness of the Scalp.—This is a phenomenon of *cerebral irritation* (*Cerebra-asthenia*) which is to the head what spinal irritation is to the spine. As in spinal irritation, the whole spine may be tender all the way from the first cervical vertebra to the coccyx; or the tenderness may be confined to the middle dorsal and middle lumbar vertebræ; so in cerebral irritation, there may be tenderness over the entire scalp; or it may be confined to the vertex, or to certain points in the forehead. Sometimes the scalp is so tender that brushing the hair causes pain; even touching the tips of the hair is disagreeable. At the vertex, the tenderness is sometimes accompanied by a feeling of heat and burning, that may be somewhat relieved by firm pressure. This cerebral tenderness, like spinal tenderness, is superficial and peripheral, not deep-seated nor central, as some have supposed. It is the tenderness of the ramifications of the occipital and other nerves that supply the scalp, just as spinal irritation is tenderness of the superficial nerves of the bones of the spinal column.

A frequent spot of tenderness is found over the eyebrow and in the left temple. This is found in sick headache, and in connection with it, there may be tenderness of the nape of the neck. A sudden jar, as when one slips in going down stairs, may, in these cases of cerebral irritation, cause temporary pain, as though the head itself had been struck. Emotional disturbance of any sort may bring on an attack of this symptom, as also may confinement in heated rooms, or in bad air, or over mental labor. These symptoms, indeed, are not constant, but come and go according to the exciting causes. Sometimes they last but for an hour or two, or for a day or part of a day. The same is true of all analagous states, spinal tenderness and general hyperæsthesia.

Tenderness of the Spine (*Spinal Irritation, Myelasthenia*) *and of the Whole Body.*—When the spine is so tender as

to become an important and permanent affliction, and to overshadow other symptoms of the neurasthenic state, it is called spinal irritation; but strictly, it is a symptom like cerebral irritation not properly a disease as such, although, as a matter of convenience, there can be no harm practically in describing it as a disease. In regard to this symptom of nervous exhaustion these points are noticeable: First, its great frequency in the higher classes, especially among women. I suppose if one should go through Fifth Avenue, of New York city, and examine the spines of all the ladies between fifteen and forty-five years of age, he would find in quite a percentage of cases, that at times, there would be tenderness either of the whole length of the spine, or more likely, at certain points, as the nape of the neck, and between the shoulder blades and on the middle lumbar vertebræ. This condition would be found at times in those who do not call themselves invalids, and who are not under medical treatment. It would furthermore be found that with some of these cases there would be tenderness of the scapula or hip bones, of the breast bone, and, indeed, of the whole surface of the body. This general hyperæsthesia, like the local hyperæsthesia of the spine, appears and disappears under any subjective or objective exciting causes, and is attended usually by a feeling of debility, and oftentimes, though not always, by backache, headache, insomnia and mental depression.

The transient nature of this symptom of spinal and general irritation is shown by the fact that it may disappear often on application of electricity. Many women always have spinal irritation during the period of menstruation.

General or Local Itching.—Itching occurring without any visible change in the appearance of the skin, is a common experience; but is not regarded as pathological, unless it be quite severe and persistent. In certain nervous states, it becomes an element of positive distress. Itching of the scalp sometimes immediately follows any prolonged and exhausting intellectual exertion. I know a man who was once troubled with a general prickly feeling all over the body, and was sufficiently annoyed thereby to take treatment for it. Certain regions of the face, arms and legs may be the local seats

of itching, which varies with the general condition of the nervous system. A lady patient of mine, of neurotic inheritance and temperament, was liable to terrible attacks of itching on a limited region of the arm; which attacks followed quickly, almost instantly, after nervous disturbance, and were not accompanied by the appearance of prurigo.

Abnormalities of the Secretions.—In nervous exhaustion, the eyes may become moistened more readily than in health, and under a very slight emotion of pleasure or of pain. The flood-gates seem, as it were, to stand ajar, and on trifling agitation, the tears flow forth. In grave cerebral disease, this symptom is common enough, but in functional disease—simple nervous exhaustion—it is even more common.

In nervous debility, also, the sebaceous glands may refuse to do their duty; the hair and beard become dry and stiff, and much pomade is needed. The hair then falls off or becomes grey in patches. Dryness of the skin in this state is a symptom familiar to all, likewise is excessive and morbid perspiration in the axilla, or in the hands or feet, or other parts of the body. Clamminess of the hands is, in young men, almost diagnostic of sexual exhaustion. In this state, also, there may be a suppression of the spermatic secretion—so that desire and power are wanting; with the improvement in nervous vigor, the secretion reappears. Likewise frequent and obstinate constipation of the nervously exhausted is oftentimes a result of suppressed intestinal secretion.

Tenderness of the Teeth and Gums.—Attacks of tenderness of all the teeth, accompanied by a whitish appearance of the gums, I have noticed in nervous exhaustion. In these attacks, which may result from over-work or excess, all the teeth may be very tender on pressure, although none of them are decayed. Here, then, is another opportunity to study with the naked eye the pathology of spinal irritation. In nervous exhaustion, whether complicated with anæmia or not, there may be tenderness of any part of the body or of the whole body. Tenderness of the head is cerebral irritation; of the spine, spinal irritation; of the tip of the spine, coccodynia; of the breast, irritable mammæ; of the ovaries, irritable ovaries; of the teeth, here described, dental irritation; of the womb,

uterine irritation; of the stomach, nervous dyspepsia; of the heart, irritable heart; of the eyes, neurasthenic asthenopia; of the whole surface of the body, general hyperæsthesia; and all these various symptoms and expressions, without doubt, have a common pathology in nervous exhaustion.

Vague Pains and Flying Neuralgias.—The so-called "growing pains" in the young are probably of this class; the force in the system is insufficient to maintain growth without suffering a degree of impoverishment which expresses itself by a subdued growl of pain.

Waving, beating, rolling sensations are often felt by the neurasthenic, even when not exactly hysterical. Shooting neuralgic pains in the limbs, or nearly all parts of the body, cause much suffering with this class of patients. Sometimes flying neuralgias are confounded with the neuralgia of incipient locomotor ataxia, which they, in some respects, resemble, but are not as violent, and do not have so much of the boring character.

Flushing and Fidgetiness.—Patients of this class oftentimes easily flush and easily faint; the inhibitory action of the sympathetic is readily interfered with by any slight emotion. Fidgetiness and nervousness, inability to keep still—a sensation that amounts to pain—is sometimes unspeakably distressing. Although it cannot be defined, it may be an accompaniment of growing pains, and is one of the myriad results of spinal irritation. Sometimes in writing, the hand and arm become so nervous and fidgety, that to continue writing would be the severest torture. When the legs feel this way, the sufferer must up and walk or run even, though he be debilitated and is made worse by severe exercise. A gentleman once under my care could not sit still in the chair long enough to take an application of electricity.

Tremulous and Variable Pulse and Occasional Palpitations.—In the nervous, the rapidity and quality of the pulse-beats may vary in many ways during the process of counting. Frequently the pulse of the nervously exhausted is compressible, and almost always it is more rapid than normal, ranging between 75 and 90, frequently going up to 95 or 100 and more. In exceptional instances, nervous exhaustion has a very slow pulse, in the neighborhood of 40 or less.

Sudden Giving Way of General or Special Functions.—The treacherousness of nervous exhaustion is one of its most constant characteristics; its symptoms lurk in ambush and burst upon us when least looked for, when we fancy ourselves utterly and forever delivered from their presence. The neurasthenic patient cannot, therefore, trust himself a half hour or even a moment in advance. In the morning, he may be, or feel, able to walk five miles; in the afternoon, from no traceable cause, it may be a task to cross the street. Even in the midst of any labor—mental or muscular—his strength gives out as suddenly as if he were struck by lightning. I knew a man prostrated for two years with profound neurasthenia, who, if he rose and crossed the room, might become absolutely aphonic. Two ladies have been under my care who could walk readily for perhaps a block or more, when instantly, and without warning, their legs would give way beneath them.

Special Idiosyncrasies in Regard to Food, Medicine and External Irritants.—When the nervous system becomes exhausted, it is apt to develop various idiosyncrasies not before observed; some of them are of high interest. Opium, for example, is likely to aggravate insomnia in many neurasthenic patients, instead of putting them asleep, unless, indeed, very large doses are used. Formerly opium was our chief—almost our only dependence when we wished to put one asleep. Now we scarcely think of using it for that purpose in the treatment of the nervous, except when there is severe pain to be relieved. Opium for the nervously exhausted prevents sleep almost as much as coffee. So frequent is this idiosyncrasy, that were it not for the bromides and cannabis indica and electricity, we would be utterly disarmed in the presence of these cases.

In regard to alcohol, some are so susceptible that a drop of any form of liquor is instantly and injuriously felt in some part of the system. Others, on the other hand, lose all unpleasant susceptibility to alcohol, and can bear it in incredible quantities, and may sometimes be profited by it. A lady whom I know, had for years been passing through a series of

symptoms of nervous depression that our most honored experts had failed to relieve. One day an ignorant and, I believe, irregular practitioner came into her house, and without inquiring into her case at all, told her in a rough and authoritative manner to get the best of claret and drink it freely. The chance shot, sent in the dark and without aim, struck the very centre of the bull's eye; the lady bought the best of claret, drank it with astonishing freedom, and found that it did for her what the best expert skill of our city had failed to do.

Coffee often acts badly with these cases. The other day a young man, who consulted me for sexual exhaustion with nervous dyspepsia, told me if he drank a single cup of coffee in the morning he was unable to attend to his business with comfort, and could not calculate or write correctly.

Incidentally, I will remark that *the development of idiosyncrasies, through nervous sensitiveness, acquired or inherited, is the real philosophy of hay fever*—a malady which, as I have shown in my work on that subject, has increased as culture and civilization have increased, and which is found usually in those who have had some other nervous symptoms. As an effect of this inherited or acquired nervo-sensitiveness, there appears in one person an idiosyncrasy against bright sun-light, so that exposure to it brings on the symptoms of hay fever; in another, a similar idiosyncrasy as to dust—the most common of all the excitants of this disease; in another, against fresh hay; in another, against ipecac or other drugs; in another, against old hay; in another, against the odor of roses, or other flowers; in another, against the pollen of corn, or of some of the grasses, or of certain weeds or Roman wormwood, or golden rod; in another, against some one of the common fruits—as grapes, apples, pears or peaches, or strawberries, or raspberries, or watermelons; and so on infinitely—new developments appearing every year. On this theory, I based the nerve treatment of hay fever, and predicted that by means of electricity, strychnine, arsenic and other sedative and tonic remedies, we should be able to greatly relieve and break up this distressing disorder. Last

year this prediction was fulfilled not only in my own practice, but also in that of other physicians.*

Another idiosyncrasy developed by nervous exhaustion is *sensitiveness to cold or hot water.* A patient of mine could never bear to even dip his hands in hot water, so disagreeable were the sensations it produced; the same patient was abnormally ticklish and timid.

Dr. Harris, in a recent article on functional nervous troubles,† relates a case of a man of middle life, who, on getting up in the morning, would feel entirely well; but as soon as he had washed and wiped his hands they would begin to burn, tingle and ache very much, as when brought near the fire after exposure to snow. After a few seconds, they would begin to swell, and would continue to swell for five or ten minutes to such a degree that he could not close or use them. In the course of an hour or more the swelling would go down, but would recur whenever he rubbed his hands. The phenomena disappeared in a week without treatment.

Sensitiveness to Changes in the Weather is a very often observed symptom of nervous debility; depression of the nerves makes the body a good barometer. For twenty-four hours and more before a storm comes on, the aching and worn nerves foretell in every part of the physical organism what is coming. The sky may be clear, but the spirits are cloudy. The tenderness of bunions and corns, the aching and stiffness of rheumatic and neuralgic sufferers, the general gloominess and misery of the exhausted before and during bad weather are not imaginations, but realities as truly as smallpox or the measles, and quite as much worthy of professional study and consideration.

Patients of this class are oftentimes made profoundly worse by the depressing atmosphere of dog days, and generally by the extreme heat of our summers. The latter half of August is especially severe on these cases.

*Hay fever regularly decreases as we go South. In the Gulf States it is comparatively rare, although it is found here and there in every State. In this respect also, it follows the analogy of other nervous diseases to which it is allied.

†*St. Louis Medical and Surgical Journal*, April, 1878. Dr. Harris assumes that many of the cases that he relates are of exclusively malarial origin, and that such symptoms are only seen in malarial regions. In this supposition he is quite in error.

A Feeling of Profound Exhaustion Unaccompanied by Positive Pain.—Attacks of a sensation of absolute exhaustion, as though the body had not strength to hold together, comes on very often in the nervously exhausted. This feeling of exhaustion, though not exactly pain in the usual sense of the word, is yet, in many cases, far worse than pain. These attacks may come on suddenly without warning, and may suddenly disappear. In the morning, one may be able, or feel able, to run on a wager; in the afternoon of the same day sitting quietly in a chair seems to be an exhausting effort to which every nerve and bone and muscle is unequal. The *going-to-die* feeling is quite common in these cases, and at first causes alarm. It may be experienced either in the day or at night, on going to sleep, or on awaking from sleep. This symptom, like many of these symptoms, appears at puberty and at the change of life; it indicates that the system is straining under the burden placed upon it.

Ticklishness.—Nearly all persons are susceptible to the form of irritation that we call tickling; but in nervous exhaustion this susceptibility may become a severe annoyance. A gentleman once under my treatment for many of the symptoms described in this paper—spinal irritation being prominent—was so ticklish on the breast, stomach and abdomen, that it was very difficult—indeed, quite impossible—to apply electricity to those parts with any satisfaction.

Desire for Stimulants and Narcotics.—When the nervous system loses, through any cause, much of its nervous force, so that it cannot stand upright with ease and comfort, it leans on the nearest and most convenient artificial support that is capable of temporarily propping up the enfeebled frame. Anything that gives ease, sedation, oblivion, such as chloral, chloroform, opium or alcohol, may be resorted to at first as an incident, and finally as a habit. Such is the philosophy of many cases of opium or alcohol inebriety. Not only for the relief of pain, but for the relief of exhaustion, deeper and more distressing than pain, do both men and women resort to the drug shop. I count this as one of the great causes of the recent increase of opium and alcohol inebriety among women. Frequently an inherited ten-

dency to inebriety is utterly latent, and does not break out until affliction, or some form of worry or distress, robs the brain of its nerve force. Very many cases illustrative of this have been published by my friend, Dr. T. D. Crothers, now superintendent of the Walnut Hill Asylum for Inebriates, Hartford, Conn.

Insomnia.—The wakefulness of the nervous is a symptom at once common and distressing, and is sometimes rebellious to all our bromides, and even to chloral. Sometimes it is the very first symptom of nervous disturbance, expressive of a mild phase of difficulty, and disappearing as the disease gets worse. In other cases, it is constant and obstinate from first to last. This symptom may yield to electricity when other medication has no power.

Nervous Dyspepsia (*Dyspepsie Asthenique*).—It is one of the peculiarities of nervous dyspepsia that it abhors a vacuum; is always much worse when the stomach is nearly or quite empty. Patients so afflicted need to take light meals, and to take them frequently—perhaps very many times daily.

In cases—not a few—nervous dyspepsia is the first noticeable symptom of nervous exhaustion—the earliest sign that the body is giving way; and for years, the stomach may be functionally disordered before the brain, or spinal cord, or other parts or organs show signs of yielding; hence the quite common belief that dyspepsia leads to softening of the brain. The true philosophy is that nervous dyspepsia is a symptom of the same general pathological condition as all the orders of symptoms here noted, and it may follow as well as lead this multitudinous army. A literary gentleman whom I once met gave a history of nervous exhaustion from over-confinement, that after some years broke out through the pneumogastric nerve, causing profound and obstinate dyspepsia that for a long time made him a complete invalid; the symptoms were almost as bad as those of cancer of the stomach, and yet the disturbance was entirely functional, and the patient improved. Flatulence with annoying rumbling in the bowels, these patients complain of very frequently; also nausea and diarrhœa.

Partial Failure of Memory.—Memory is a measure of mind.

When rightly studied, it is perhaps the most delicate of all neurometers or indicators of the nervous force in health and in disease. With the growth of the brain in childhood, memory grows, and it declines with the slow decay of normal old age. Partial failure or treacherousness of memory is not not only a sign, but in some cases, one of the very first signs of exhaustion of the nervous system. Business men find that they cannot depend on their memories as formerly; they forget details of engagements—sometimes those of importance—and thus are variously inconvenienced.

Sexual exhaustion, or that form of nervous exhaustion that is noticed in young men who over-excite or over-use the genital function, in the natural or unnatural way, is usually, if not always, accompanied by failure of memory; but other forms of nervous exhaustion in both sexes, offer the same symptom.

Deficient Mental Control.—Inability to concentrate the intellect on any task, as in writing or thinking, is a notable symptom. The mind wanders away in every direction, and when brought back by an effort of the will, is liable to be soon again lost in reverie.

In some cases, the exercise of concentration, or even slight attention, is exceedingly irksome and painful, causing distress sometimes in the head, sometimes in the back or extremities, or other parts of the body.

Seminal Emissions—Partial or Complete Impotence.—Occasional seminal emissions in the healthy and unmarried are physiological—that is, they are not symptoms of disease, but normal and necessary results of abstaining from sexual intercourse. Such involuntary discharges, when excessively frequent, are both results and causes of disease, indicating an abnormal, usually an exhausted state of the nervous system, and in turn re-acting on the nervous system, increasing the very exhaustion that causes it. Such, in general, is the philosophy of all, or nearly all, cases of frequent involuntary seminal emissions.

An attack of *acute* disease of any kind may leave the system, during convalescence, in a state where seminal discharges may take place with far greater than the normal frequency; on return to health, this symptom, with all other symptoms of debility, disappears.

Chronic neurasthenia is often accompanied, as one of its symptoms, by seminal emissions, even in those who are married; indeed, some of the most persistent cases I have seen have been in married men.

Impotence—partial or absolute—when it appears as an effect of neurasthenia, as it frequently does, usually recovers with the improvement in the nerves, sometimes without special treatment.

Changes in the Expression of the Eyes and Countenance.—In sexual exhaustion, downcastness of the features, aversion of the eyes, and general sheepiness of manner, with dark circles beneath the eyes, are symptoms that have long been obscured, but these signs, taken individually, are not pathognomonic of any special form of nervous exhaustion, since they appear in nervous and digestive debility, however caused. It is, however, undeniable that these symptoms, in their entirety, do occur very frequently in the debility associated with sexual disorder, and may, perhaps, be set down as distinctive of that form of nerve disorder.

The mere expression of the eye is modified by disease in a way that it is hard to analyze or describe. How a night's debauch affects the expression is well known. In chronic nervous exhaustion from any cause or combination of causes, this expression of debility may become chronic—a permanent state that is revealed at once on meeting and addressing the sufferer.

A lady whom I once treated for numerous nerve difficulties, and who entirely recovered, told me that as she got better the whites of her eyes were of a clearer blue, and consequently, to her delight, more attractive. This fact was observed by several of her friends as well as myself.

Mental Depression with General Timidity.—In disease, as in health, fear is one of the symptoms of weakness—an emotion with which the instinct of self-preservation environs every form of incapacity. In our half-awakened moments at midnight, a slight noise causes the heart to beat rapidly, for we are conscious of not having full possession of our powers to meet any attack or danger. The nervously-exhausted man is always in this state, physically insolvent, and unequal to

efforts that require much vital expenditure. In that form of nervous exhaustion known as sexual exhaustion, senseless timidity is one of the diagnostic features; fear of society, fear of the indefinite future, unwillingness to enter upon any enterprise, inability to look one squarely in the face, downheartedness and indefinite distrust. Patients of this kind will walk up and down before a physician's office many times before venturing to enter. This timidity becomes a serious matter in business, making success very difficult. One of my patients troubled with cerebral exhaustion, of very large wealth, and great business experience, tells me that, desiring once to borrow, on perfect security, some money for a certain business purpose, he walked several times up and down the front of the office of the capitalist whose aid he sought, before he could summon the strength to go in.

The mental depression of the nervously exhausted is largely independent of external conditions, although it may be aggravated by them—especially by bad weather; a certain amount of blood and nerve force is needed for happiness.

A very eminent theologian and preacher, who consulted me three or four years ago, told me that when he had charge of a parish, the responsibility of sitting in his pulpit and listening to a travelling agent, exhausted him more than preaching himself, for the reason that he continually feared that the stranger would say or do some indiscreet thing.

Responsibility of any kind, without any labor, even when unconscious, may powerfully affect the system, and in various ways. Thus a young man whom I knew, who was badly troubled with seminal losses, causing great nervous exhaustion, resolved to try the woman cure, and made regular appointments with a lady friend. It was a new experience for him, and he professed to have no pleasure in the sexual act, and felt somewhat timid and distrustful about the matter. The consequence was that the responsibility of meeting his appointment would always cause him to have free passages from the bowels, although generally he was very constipated.

Morbid Fear of Special Kinds (*Agoraphobia and Astraphobia*).

Fear of leaving home, of going out of the house, of going anywhere alone, of crossing a ferry, of crossing an open square, of going through a narrow alley, of going away from the neighborhood of shops or open places of refuge, are some of the phases that this symptom develops. This symptom is not very common, but when it does occur, it is very annoying and sometimes quite obstinate. It is a ludicrous and absurd symptom, but it may occur in persons of intelligence and ability and good sense. It is analogous in some respects to the utter helplessness that some experience when standing on an elevation; the will is put to rout completely, and cannot rally at the call of reason.

I was consulted not long ago by a physician, who was so harassed by this symptom of nervous exhaustion that he was unable to attend to his practice. His physical strength was sufficient, but on account of the agoraphobia, he could not go any distance from his office with any comfort. He would be working in his garden, but when requested to go a mile, or even less, to see a patient, he could not respond. On walking out with him one morning, I observed that he turned the corners often so as to keep about such a distance from the hotel, where he was stopping. Under electrical and other treatment, the physician is improving, and is attending to his profession.

Dr. C. L. Mitchell tells me of a gentleman who was so badly agoraphobic that he was unable to leave his house, without company, and accordingly he paid a man $20,000 to be his constant companion. There have been men who, by this symptom, have been kept as close prisoners as though within the walls of a penitentiary. In some instances, though not in all, this strange symptom seems to be traceable directly to sexual excess of some kind.

Sometimes very bad cases of this malady entirely recover. I have known three persons who were unable to cross the Brooklyn Ferry, and all got well in a few weeks or months.

My friend, Dr. D. E. Smith, of Bronxville, N. Y., tells me of a lady who is unable to cross Harlem river on the cars, and consequently cannot visit New York city.

I have now under my care a lady in whom the agorapho-

bia takes the form of inability to go to church. It was in church that she was first taken with a peculiar and hard-to-be-described lightness of the head; and she now feels that she could do almost anything else rather than attend church. Ability to do that she would regard as the best and strongest sign of recovery. A young business man, who was first attacked with bad symptoms in his factory, dreaded to enter the building, until, under electrical treatment, he recovered.

The term *astraphobia*, or fear of lightning, I have applied to that form of nervousness that is painfully affected before and during thunder storms. Headaches, neuralgias of various kinds, depression, spasms, are some of the symptoms of this state, which, in some instances, is hereditary and runs in families.*

Fear of Society is a phase of morbid fear that is common enough in all forms of nervous exhaustion, but is, perhaps, most often noticed in sexual complications. With fear, blushing of a senseless but overpowering character is often combined; the victims are ashamed to enter the presence of ladies—to enter the presence of any one; they cannot look any one in the face, but in conversation keep their eyes turned down or aside.

Sick Headache and Various Forms of Head Pain.—Sick headache is both a symptom and a safety-valve. If one must be nervous, an occasional attack of sick headache, if it be not too severe, is an excellent way for this nervousness to manifest itself, and, no doubt, saves other and worse affections. When sick headaches suddenly and permanently leave us, there may be reason to beware, though not probably in all cases. Some years ago, I had under my care, for a short time, a case of shaking palsy that had followed a sudden and apparently causeless cessation of sick headache. When sick headache leaves us, as a result of improvement of the nervous system through treatment or hygiene, it is so far forth a good sign.

Like most of the symptoms of nervous exhaustion I am here describing, sick headache is experienced mostly between the ages of fifty and fifteen. Rarely, or never, do young children

*Beard & Rockwell's *Medical and Surgical Electricity*, second edition, p. 456.

have it, and it usually stops before old age. It is a symptom that belongs to the perturbable and active years, and may quickly show itself when, from any cause, the nervous system is depleted of its force.

Pain and Heaviness in the back of the head and over the vertex and through the whole head, very commonly attend the neurasthenic state—especially when the brain is congested; but many also appear where there is no evidence of an excess of blood on the brain. Lightness of the head is also a common complaint; also a symptom usually defined as "I cannot tell how I feel."

Here I may remark that very much has been said, is now said, and for a long time probably will continue to be said of circulatory disturbances as the pathology of all these and kindred symptoms; and when such a symptom is declared to depend on cerebral or spinal anæmia or hyperæmia, it is supposed that we have solved all the problems that relate to it. For a number of years, I have been contending that circulation is a result of innervation. The brain and spinal cord, impoverished of nerve force, are unable to maintain the balance of the ebb and flow of the blood of the arteries and veins; consequently anæmias and congestions arise that may be transient or more or less permanent. But the disease is not the anæmia nor the hyperæmia (although both anæmia and hyperæmia, when they occur, may and do induce certain symptoms peculiar to themselves); but it is the neurasthenia—the nervous exhaustion, the decline in the quantity or quality of nerve force—that presides over the circulation, although it cannot, like the blood, be weighed, measured, analyzed or studied under the microscope. This view, though scarcely listened to, and not at all understood, when first pressed, is now slowly gaining its way among the neurologists, both of Europe and America.

There may be anæmia of the nerve-centres without exhaustion, as after hæmorrhages; and there may be sudden congestion of the spinal cord, from taking cold, or of the brain from various causes—but these are not the conditions of which I am here speaking. They occur in those who are not nervously exhausted; indeed, congestions are more likely

to occur in the plethoric and strong; they come rather under the head of acute and traumatic disorders.

Disturbances of the Nerves and Organs of Special Sense.—Nervous exhaustion often causes dilatation of the pupils—sometimes dilatation of one pupil and contraction of the other. These conditions are temporary and changing—not permanent—as in certain organic diseases.

Another malady of the eye is what I may call neurasthenic asthenopia, or the irritable eye, from nervous exhaustion, not depending on any muscular or accommodative trouble, but symptomatic purely, revealing nothing to the ophthalmoscope or other tests of modern ophthalmology, but none the less painful, distressing and sometimes exceedingly obstinate. This disease of the eye, symptomatic of nervous exhaustion, I observed and called attention to a number of years ago, but could find no formal recognition of it in the standard text-books of ophthalmology. But, very recently, Dr. Mathewson, in conversation on the subject, tells me that this third form of asthenopia is now, under various names, coming into recognition in the journals and societies devoted to diseases of the eye.

An attack of this neurasthenic asthenopia—which is oftentimes so severe that reading or writing, or sewing, are accomplished only with great pain, and the eyes are painful and tender on pressure even when not used—an attack of this kind may last half an hour, or three hours, or three months; and, like analogous states in other parts of the body, with which it is often accompanied, may come and go very suddenly. In looking at the eye when in one of these attacks, we observe often a passively-congested state of the conjunctiva. This congestion is a result—not the cause—the effect of the nervous irritation, and comes and goes under exciting causes. Such, without question, is the pathology of cerebral irritation, of spinal irritation, of irritation of the mammæ, the ovaries and testes, and of sick headache and many other forms of neuralgia. The notion which has been advocated—that this neurasthenic asthenopia, or irritable eye, is peculiar to women, and always reflected from the uterus, and therefore to be called uterine asthenopia, is but an adumbration of the truth; for the malady, though most common

in women, like all this family of symptoms, is found in both sexes: the very worst cases I have ever seen have been in males. Several of my cases have been examined by our best experts in ophthalmology. This form of eye weakness is quite susceptible to the influence of psychical contagion. A number of years ago it spread through many of the colleges and seminaries of the country—in some instances compelling young men to abandon their plans of liberal education.

Muscæ Volitantes, or floating specks before the eyes, often annoy even the slightly nervously exhausted; in these cases, the ophthalmoscope is only of negative assistance. Under exciting causes, the specks suddenly appear and disappear. The liability to them may be a habit of one's life.

Noises in the Ears in the shape of sudden explosions or pulsations, to say nothing of other varieties of tinnitus aurium, are quite common in cerebral exhaustion, especially when attended with congestion. These explosions may come on without any warning, while one is sitting quite still, and there is no apparent exciting cause. These symptoms may occur even when there is no perceptible disease of the auditory apparatus, and may disappear as suddenly as it appears. A feeling of fulness and oppression in the head sometimes attend these symptoms. Subjective odors of various kinds—as of ozone or phosphorous; also abnormal subjective tastes—bitter or sour; likewise fleeting symptoms of cerebral exhaustion are observed.

Localized Peripheral Numbness and Hyperæsthesia.—In any portion of the periphery—the face, the arms, the ends of the fingers, the thighs, the legs and the toes—there may be, in nervously exhausted patients, persistent numbness of a definitely localized character, or excessive sensibility, similarly localized. In some cases, this local peripheral hyperæsthesia amounts to a very distressing disease. I was once consulted by a physician who had hyperæsthesia of the left hand, caused apparently by local injury acting on a nervous diathesis. The condition was very obstinate, and caused much distress. I once had under my care a lawyer who had a burning feeling in the thumb and fingers of the right hand, with pain sometimes running up the arm. At first I suspected that the symptoms were premonitory of writer's cramp. The patient

went to Europe and took various treatments under the direction of Charcot and other neurologists without important benefit; but is now able to pursue the routine of his profession. I have now under my care a gentleman who has had, for a long time, a sensation of numbness and burning at the ends of his thumbs, at the bottom of the heels, and around the legs and ankles. These symptoms are accompanied by the usual symptoms of cerebral exhaustion and congestion—pain in the head, a feeling of fulness and pressure, and mental depression. Sometimes there are flying, stinging, pricking sensations in the feet and legs, that caused one European physician to make the diagnosis of "flying gout." With hygiene and electrical treatment, this patient has improved in a manner most encouraging; and what is of chief interest just here, the improvement in the peripheral symptoms has exactly kept pace with the improvement in the brain symptoms, showing their common nature.

Symptoms of this kind excite fear and dread—oftentimes as indicating grave and structural brain disease, or as premonitory of apoplexy; but in the majority of cases, they are the results and signs of functional—not structural trouble, and occur in people who live to old age.

I have seen a number of cases where there was numbness on a limited area of the thigh, and all have recovered or permanently improved without a very bad history.

Among other special symptoms coming under this head, I may mention a *crawling or creeping* as of insects just beneath the skin—a sensation as though a pin or many pins were just touched to the skin; a tendency for the legs and arms to "go to sleep," under far slighter pressure than in the normal state of health, is observed in cases of this class. Sitting a very short time in a hard chair, riding in an omnibus, or car or carriage may cause the foot to get asleep, when, in entire health, no such effect would have been produced by the same cause.

I have now under my treatment a man who often wakes up at night with a strong but transient sensation of numbness in the little finger and inner side of the third finger, confined to the track of the ulnar nerve. In other cases, other nerves of the arm may be involved, and all the fingers

may be numb. Numbness of this kind usually goes away after a little shaking and rubbing. It is more likely to come on at night from lying on the arm; but in the daytime, also, it may occur when the arm rests for a few moments over the back of a chair. When one is specially exhausted or worried from any cause, this transient and local numbness is more likely to show itself. The pathology of this state is probably, if not certainly, an obstruction in the passage of the nerve force through mechanical pressure. In the highest health, sufficient pressure will produce this condition, and if the pressure be kept up, permanent paralysis may occur; but in nervous exhaustion, when the nerve force moves slowly and with very little *vis a tergo*, much slighter pressure suffices to obstruct its passage—just as water, flowing slowly through a rubber tube, can be checked by a gentle touch of the finger, but if flowing rapidly and with great force, needs a stopcock.

General and Local Chills and Flashes of Heat.—Disturbance of circulation both follows and accompanies disturbance of innervation. Creeping chills up and down the spine are commonplace; but there are symptoms allied to this not so familiar. Thus Dr. J. H. Sterling had under his treatment, at one time, a lady whose knees were literally as cold as ice—that is, they felt to her as cold as though they were packed in ice. I knew of a case where there were limited and small areas of heat and cold sensations on the arms. I have also known cases where the ankles were cold, even when other parts of the body were comfortable. After fatigue or worry, the penis and scrotum, as well as the ears, or one ear, and one foot or both feet, and one hand or both hands, may be cold to the touch—even in warm weather, and in a hot room, or when thickly wrapped up. Patients in this state are, indeed, like Harry Gill, very, very cold, no matter what they put on; the skin may be almost blistered, as they stand near the fire, and yet chills are running all over them.

Long writing, which may produce symptoms of writer's cramp in others, may, in the nervously exhausted person, cause coldness of the fingers, hand or arm, especially when the arm is elevated. Yet more minutely may this symptom of coldness be localized; spots as small as the point of a pin

apparently—especially on the face—may be pinchingly or stingingly cold—this sensation quickly appearing and quickly disappearing.

Local Spasms of Muscles.—What are called "fibrillary contractions," and which sometimes occur in progressive muscular atrophy, are also noticed in the various shades of nervous exhaustion. An individual muscle or part of a muscle may twitch occasionally or frequently, so as to cause considerable annoyance, and in some cases, unnecessary anxiety. As these vibrations occur in the orbicularis, and other muscles of the face, these spasms are very familiar; they come and leave without warning, and suddenly. I was once conversing on nervous diseases with a well known physician, when, all at once, the orbicularis of one of his eyes began to twitch vigorously; he said it was the first time in his life that he had experienced anything of the kind; he regarded the use of tobacco as the probable cause.

The stomach, in nervous dyspepsia, may be the seat of similar spasms, which may follow any excitement or emotion, as of fear or responsibility. A sensation like that of a reverse aura seems to go downward to the pit of the stomach from the nerve centres, and excites spasm, apparently, of the muscles of the stomach itself.

I close with these suggestions:

First.—The above detailed symptoms are not imaginary, but real; not trifling, but serious; although not usually dangerous. In strictness, nothing in disease can be imaginary. If I bring on pain by worrying, by dwelling upon myself, that pain is as real as though it were brought on by an objective influence. Modern science is built up in a degree by observations of phenomena that all the ancient and medieval world regarded as beneath observation. Is not the observing and right interpreting of subtle, obscure, elusive and out-of-the-way phenomena of disease the best test of scientific skill?

Secondly.—These symptoms of nervous exhaustion are, in a measure, interchangeable—antagonistic to each other—and nervous exhaustion is itself antagonistic to many other diseases—especially of the acute and inflammatory sort. Diseases prevent disease; diseases cure disease; diseases are antidotes to disease. Sufferers from chronic neurasthenia are

safer in the midst of epidemics than others are; they are not subject, as are the robust and full-blooded, to violent and fatal fevers; and when attacked, they are more likely to survive. To this numerous class of sufferers, it is, then, a consolation that their disease is itself medicine and hygiene. Opium-eaters, I am told, are comparatively exempt from malaria, and in the East pass unharmed through the epidemics of cholera.

Likewise alcohol inebriates do not usually suffer from ordinary nervous exhaustion. Excesses of any kind that injure us in one way may save us from being injured in other ways. Alcohol seems to act as as internal counter-irritation.

The *interchangeableness* of these symptoms is also noteworthy. In nervous exhaustion, nothing is constant except inconstancy. The symptoms chase each other like the shadows of summer clouds across the landscape. The moment one leaves, another and several stand ready to take their place. In a single day, one may go through the whole gamut of all these notes of disease.

Thirdly.—The *periodical and rhythmical* character of some of these symptoms is of much interest.

While this paper is being revised, I have been consulted by a clergyman of middle life, who, with many other symptoms of neurasthenia, is troubled with attacks of special and peculiar depression, lasting for about a day, more or less. These attacks are ushered in usually by a feeling of mental exaltation; then come diplopia, with other abnormal phenomena of vision, and so on through quite a regular series of nervous symptoms. Prostration from heat was the original cause of the attacks, which are now brought on by any mental or physical exhausting or disturbing influence. The patient finds that a drop or two of belladonna taken during the stage of exaltation will always break up the attack, and now he always carries a bottle of that remedy in his pocket. I once had under treatment a young man who had attacks of nervous depression every day about noon; they lasted but for a short time, but were as periodic as chills and fever—and like chills, and like the preceding case, passed through definite stages.

Fourthly.—Nervous exhaustion is compatible with the appearance of perfect health.

For this reason, as well as on account of the slippery, fleeting and vague return of their symptoms, patients of this class get but trifling sympathy. Sometimes they are fat and hearty, and have a ruddy, vigorous, strength-suggestive bearing; sometimes also they grow fatter as they grow worse. Noticeably the disappearance of symptoms in the stomach, and the appearance in their stead of symptoms in the brain and spinal cord, is followed by increase in weight that deceives the friend, the physician, and even the patient himself. Thus it happens that patients get the least sympathy when they most need it.

Four years since, a prominent politician consulted me for a medley of nervous symptoms induced by sunstroke—a not uncommon cause of neurasthenia. He was an enormous, herculean man, but gave a history that would well have befitted the most delicate and hysterical woman.

Fifthly.—Nervous exhaustion is a modern disease, and preeminently an American disease, and in this country is chiefly found in the North and East. This disease must, therefore, be studied here; we cannot, as in so many other diseases, look to Germany for light and information—for in Germany this condition is comparatively unknown, and in France and England is far more rare than with us. It is a disease almost exclusively of the well-to-do classes, and can, therefore, be satisfactorily studied only in private practice. Medical treatises founded entirely on hospital and dispensary experience are of little service to those who desire guidance in the analysis of this or of kindred disorders.

Sixthly.—The treatment of nervous exhaustion should be in general of a sedative and tonic character; should not be exclusively applied to any one of these special symptoms, but to the whole condition—to the main trunk and not to the separate branches. Electricity in central and general applications with both currents, varied and abundant food, passive exercise, as *massage*, in some cases, absolute rest in bed, in others, mild, active exercise, and the judicious use of such remedies as relate to the nerve-centres, counter-

irritation by very small blisters, or the actual cautery, dry cold to the urethra through the cooling catheter, for the special form known as sexual exhaustion; fats, fish and phosphates of various kinds—and internally, cannabis indica in small doses, combined with the bromides, strychnine, of course, with calabar bean, the preparations of zinc and arsenic, gelseminum and bromohydric acid, caffein, malt and oil—under this system of treatment, adapted with care and study for individualid iosyncrasies, and combined with right hygiene, the majority of cases of neurasthenia can be permanently relieved, if not substantially cured.

ART. II.—**Complications of Scarlet Fever.** By JOHN D. CARNAHAN, A. M., M. D., Ogden City, Utah.

To say to the well informed and experienced portion of the medical profession, that scarlatina is the most uncertain, most irregular, and at the same time, the most dangerous of the eruptive fevers, would be "carrying coals to Newcastle." All admit that our prognosis in this disease must be guarded; that we cannot foretell with any certainty what the morrow may bring forth.

I do not propose in this article to speak of *all* the complications which present themselves during the course of this disease, but merely to call attention to the anomalous features presented by a single case, which fell under my observation a short time since.

CASE.—*Feb.* 13, 1878. I was called to see Annie C., aged 3 years. Parents stated that she had been indisposed for several days. Slight notice was taken of this as she had been vaccinated some ten days previously, and constitutional disturbance was expected from this source. The appearance of an eruption, however, caused alarm, and I was sent for. Sore throat, peculiar tongue, considerable febrile excitement (102° F.), frequent pulse (135), together with the characteristic rash, enabled me to readily diagnose scarlatina. The absence of delirium, and the moderate elevation of tempera-

ture, led me to believe that the attack would not be severe. Ordered a dose of castor oil, and afterward the following:

℞. Tinct. verat. virid.....gtt. iv.
Spts. ætheris nitrosi.....℥j.
Liq. ammon. acetat.
Aquæ.....$\overline{aa}$ ℥ss.

M. Sig.—Teaspoonful every three hours. Also applied a slice of fat salt pork to the throat.

The diaphoretic and sedative mixture mentioned above was continued for 24 hours, and the following was substituted:

℞. Potassæ chloratis.....℥j.
Tinct. ferri. chloridi.....℥ss.
Syr. simplicis.
Aquæ..... $\overline{aa}$ ℥j.

M. Sig.—Teaspoonful (diluted) every four hours.

Very little change occurred in the child for the next five days, and hence, her condition, and the treatment will be briefly stated. The tongue cleared off and presented the characteristic strawberry appearance; the throat was inflamed, but there was no exudation; the appetite was poor, and the bowels were constipated. The nervous system was not implicated, nor was it at any time during the course of the disease. The temperature did not rise higher than 103° F., nor did the pulse become more frequent than 135. Urine rather high-colored, but sufficiently abundant. Eruption quite distinct on 6th day, but gradually faded after this, and disappeared on the 8th day. The iron and potash mixture was continued during this period.

The pork had to be removed on the 2d day on account of the restlessness it produced; but a preparation of turpentine, camphor and oil was used in its stead. To relieve the itching, body and limbs were annointed several times daily with olive oil. All the nourishment the child could be induced to take was given. Bowels were moved from time to time by gentle laxations or enema.

On 7th day, an exudation was observed on the tonsils, which could be removed by a brush charged with a small quantity of the following mixture:

℞. Acidi carbolici.....gtt. viij.
Liq. ferri subsulphatis...℥ij.
Glycerinæ.....℥j.—M.

The deposit would quickly reappear after removal; hence the use of the above was not persisted in.

On the 8th day, no trace of the rash could be observed;

nevertheless the temperature remained elevated (102.5°); pulse 132.

On the morning of the 20th of February (the 9th day of the disease), I found the cervical glands, and cellular tissue around, greatly swollen and indurated. Re-applied salt pork. By the next day, cellulitis had increased, and all the tissues of the neck, on both sides, were of almost a stony hardness. The temperature rose to 103.5° F. No change in other respects, except that deglutition was quite painful, but not difficult. Ordered quinine and whiskey in addition to iron and potash. For several days, nourishment had been given as regularly as medicine.

On the 22d, the skin over swelling assumed an erysipelatous redness. Removed pork and applied poultice.

On the 23d, pulse was 140; temperature 104° F. To my surprise, a second eruption appeared, and grew quite distinct during the day. By request, Dr. Allen Fowler, of Salt Lake City, saw the patient with me. Left off quinine and commenced the use of salicylate of soda on account of its known antipyretic virtue, and hence supposed antiseptic properties. Twelve grains were given daily in divided doses.

I regret that the only thermometer available was accidentally broken at this time; hence no accurate estimate of the antipyretic effects of the soda salt could be formed.

Dr. Fowler advised the application of tinctura iodini composita to the swelling, and a continuation of the poultices. Also a larger dose of muriated tincture of iron, viz: 5 minims, which was given continuously (as well as the salicylate) till the termination of the case. Beef tea, Valentine's meat juice, eggs and milk were given at short intervals, and stimulants freely.

During the next three days, very slight change occurred. The second eruption remained quite bright—in fact it was more brilliant than the first. The pulse grew more frequent and feeble; respiration was labored, but not obstructed by external swelling or collection of mucus internally. The child seemed to suffer greatly, and was quite restless. Tinctura opii camphorata was given in small doses to relieve this. Evidences of suppuration were anxiously and carefully searched for, but no fluctuation could at any time be detected.

On the morning of the 27th—the 16th day since the appearance of first eruption—my attention was called to a dark spot over the cricoid cartilage. By evening, this was fully an inch in diameter, and presented unmistakable evidences

of gangrene. On the next morning, sphacelus of the skin and subcutaneous tissues had occurred, and the discoloration had extended as far back as the ear on either side. The child grew weaker, and died of exhaustion on the afternoon of the 28th—seventeen days from the appearance of the first eruption.

This case exhibits several feature of unusual interest to which I wish to direct attention. It will be seen that for seven days the disease pursued its usual course; or, according to the classification of Bouchut, it was "regular." On the 7th day, an exudation appeared on the tonsils and pharynx. On the 9th day, cervical adenitis and cellulitis suddenly supervened. On the 12th day, a second eruption manifested itself, and lastly, on the 16th day, gangrene commenced.

It is not unusual in scarlatina (anginosa) to observe a fibrinous deposit upon the fauces, but in this case, the adenitis following so rapidly in the wake of the exudation, led me to suspect the presence of a formidable complication; namely, diphtheria. The celebrated Trousseau (*Clinical Medicine*) says:

"There is another form of sore throat which is, according to my experience, almost invariably fatal. Some individuals have scarlatina in a medium degree of severity. * * * On the eighth or ninth day of the attack, recovery seems a certainty, and the family has ceased to be anxious. In this propitious state of the case, swelling suddenly appears at the angle of the jaw, which not only takes possession of that situation, but extends to the neck, and sometimes to a part of the face. How are we to explain what has taken place? Has diphtheria supervened to complicate the scarlatina? I so often find such an identity between the sore throat of malignant scarlatina and the sore throat of malignant diphtheria, that I cannot prevent myself from believing, though I dare not affirm it as a fact, that these symptoms depend upon a complication with a formidable form of diphtheria, occurring at the close of an attack of scarlatina."

"A circumstance which tends to support me in looking at the facts from this point of view, is this, that I can only recollect *one case of recovery* from sore throat supervening suddenly at the ninth or tenth day of an attack of scarlatina."

It will be seen that Trousseau hesitates about calling this

intercurrent affection diphtheria. But more recent writers, among them Dr. J. Lewis Smith, of New York, positively affirm the co-existence of the two diseases. This distinguished physician, in his work on *Diseases of Children* (1876) says:

"During the recent epidemics of diphtheria in this city, many cases have been observed in which diphtheria and scarlet fever co-existed."

More recently, the same gentleman, in a discussion at a meeting of the New York Academy of Medicine, on the subject of the "complications of scarlet fever," spoke as follows: (*Monthly Abstract Med. Sci.*, Oct., 1877).

"Diphtheria, as a complication of scarlet fever, has been of very frequent occurrence in New York, as it will be in any locality where diphtheria has prevailed, and scarlet fever has made its appearance. This complication occurs as early as the middle or close of the first week."

I saw a case a short time since, with Dr. A. S. Condon, of this city, which fully confirmed the latter statement. On the 6th day of a severe attack of scarlet fever, a fibrinous exudation appeared on the fauces; this quickly extended to the larynx, and on the 8th day, the patient died of pseudo-membranous laryngitis. In this case, there was a sero-sanguinolent discharge from the nares, horribly fetid breath; in fact, every symptom of malignant diphtheria was present.

Adenitis, with a moderate amount of cellulitis, occurring during the course of scarlet fever is not uncommon, and is usually regarded as of but little importance; but in this case the extensive inflammation of the connective tissue of the neck, together with the erysipelatous redness of the skin over the swelling, led me to give an unfavorable prognosis, which was, unfortunately, verified by the termination of the case. Owing to the intensity of the inflammation, resolution was not expected, and the best result hoped for was a rapid breaking down of the swollen glands. To this end, cataplasms were continuously applied, but without accomplishing the desired end. Instead of suppuration, however, a more formidable trouble presented itself, viz.: gangrene. From a careful examination of the limited amount of medical literature at

my disposal, I am assured that this complication of scarlatina is rare; so rare, indeed, that men of such large experience as Trousseau, Graves, Austin Flint, Sr., and J. Lewis Smith, think it worth their while in their works to give a history of such cases as they have seen somewhat in detail.

But the most peculiar feature of this case was the secondary eruption. Naturally, the inquiry will arise in the mind of the reader, as it did in mine at that time, was this a scarlatinous rash? After a careful examination and process of exclusion, I was forced to believe that I had to deal with a second attack of scarlet fever, or a "relapse," if that term would be preferable.

The only diseases with which scarlatina is liable to be confounded are erythema, roseola, and measles. In this case, the two former were excluded by the duration of the eruption (six days), and the prominence of the constitutional symptoms; while the presence of the latter was negatived by the absence of coryza, bronchitis, and the crescentic rash. In the June number, 1877, of the *Abstract Medical Sciences*, appears a resumé of a very instructive article, by Dr. Huttenbrenner, of Vienna, on "Second Attacks of Acute Exanthemata." This writer, while he establishes the occurrence of relapses from scarlet fever, admits that they are rare, as Koener, in the *Year Book*, mentions but three such cases as having been published within the year. In these, the second rash appeared on the 11th, 28th and 31st days respectively after the primary eruption. Dr. John Harley, in an article on the "Pathology of Scarlet Fever" (*Medical Times and Gazette*, Dec. 23, 1872), relates several instances of second attacks of the disease. His idea is, that the entire lymphatic system is implicated, and may remain affected long after the disease has seemingly disappeared; that some irritation only is necessary to cause a recurrence of the trouble. Furthermore, he shows that these relapses are often followed by typhoid fever.

I will merely state before concluding this article, that when this case fell under my observation, I was quite familiar with the scarlet rash, as the disease had prevailed in the town for

many months; hence I do not think I could have been mistaken. As the case was unique, I endeavored to make a thorough differential diagnosis. Desquamation only was wanting, but it must be remembered that the child did not live sufficiently long after the second attack for this to occur.

ART. III.—**Eight Cases of Intra-Laryngeal Growths Removed through the Natural Passages.** By J. H. HARTMAN, M. D., Baltimore, Md. (Read before the Baltimore Medical and Surgical Society, April 18th, 1878.)

In no department of modern medicine has such rapid and satisfactory advancement been made within the last few years as that relating to laryngology; and no class of diseases has undergone such marked changes of pathology, diagnosis and therapeutics, as those affecting the larynx. What was only a few years ago the subject of surmises and empiricism, is to-day one of the most accessible and best understood parts of the human system.

For the purpose of showing the value of the laryngoscope, and also its *practical* results, the following eight cases of intra-laryngeal growths are taken from my case book—the first, I believe, which have ever been reported to this Society, and the first, in my knowledge, which have been reported in this city as having been removed *per vias naturales*. All of them had at one time or another been under professional care, and in not a single one had any laryngoscopic examination been made previous to mine, though in all, the symptoms and history were such as to clearly indicate the larynx as the seat of trouble, evidently showing a want of sufficient familiarity with the instrument, which should not exist in this enlightened age of medical advancement. The proper use of the instrument is by no means very difficult to acquire; and when once understood, will amply repay for all time and labor expended in perfecting so reliable and satisfactory a means of diagnosis and therapeutics.

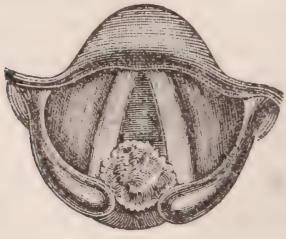
I have attempted to illustrate the position and form of the various growths by a series of drawings, taken at the time

the cases were first seen, and as near the normal size as possible. The cases are very much condensed, avoiding long explanations and tedious repetitions.

CASE I.—*Papillomatous Growth Occupying entire Inter-Arytenoid Commissure—Removed—Cure.*—*June* 4th, 1873, Mr. Thomas H., æt. 42, an attorney of Washington, D. C., was sent to me by his family physician, Dr. Boyle, on account of a persistent aphonia, from which he had suffered for some eight months, following upon a severe cold contracted the previous October. At the onset of his trouble, he had at times complete loss of voice and a tight, ringing cough, and at times coughed up a thick, jelly-like mucus, but no purulent matter.

Under the use of astringent sprays by his medical adviser, his voice temporarily improved, and the cough disappeared. He had never had any pain in the larynx, but had a feeling of exhaustion and oppression upon attempting to use his voice; there was very little dyspnœa, and that only when he walked rapidly or exerted himself. His general health has always been good, and not at all affected by the above described conditions. When I saw him, it was with great effort that he was able to raise his voice above a hoarse whisper, and he thought that his condition had gotten worse within the last few weeks. No phthisical history, and upon examination of his chest no indications of pulmonary trouble could be detected. Pressure over the cartilages of the larynx produced no pain, but caused a slight paroxysm of coughing.

Upon a laryngoscopic examination being made, it was found that the entire inter-arytenoid commissure was occupied by a papillomatous growth, about the size of a large pea, irregular in outline and form, and situated more upon the right half of the commissure than the left; it had a dark red color, with the exception of a small point toward the left arytenoid, which was of a bright, rosy hue. The growth moved forward and upward upon attempted phonation, and prevented the approximation of the cords. The accompanying cut gives a good idea of its position, etc. The surrounding tissues were much congested, the cords being red and hypertrophied, having very much of a swollen appearance.



The patient at first declined instrumental treatment, but upon being assured that such a procedure was the only one which of-

fered a hope of permanent relief, finally consented, and upon June 10th, assisted by Mr. H's brother, the first attempt was made to remove the growth with Fauvel's antero-posterior forceps. The patient was allowed to suck ice for some twenty minutes before the operation was undertaken, in order to overcome the irritability of the pharynx; and upon the first attempt, the growth was seized by the forceps, completely crushed and torn away. Intense spasm of the larynx immediately followed, and the expectoration of a few drops of blood. What remained of the growth was then brushed with a strong solution of chloride of zinc. Absolute rest was ordered, with the occasional use of ice.

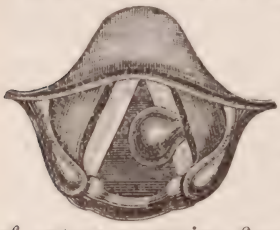
Upon the following day an examination was made, and showed almost complete disappearance of the growth—only a small nodule remaining upon the right side of the commissure at the insertion of the right cord. The voice was much clearer and stronger, but some little soreness was felt upon any extra exertion to speak loud. The parts were again brushed with the zinc solution, and continued rest of the vocal apparatus ordered.

Upon the patient presenting himself upon the fourth day after the operation, not a vestige of the growth could be seen, the voice had recovered much of its former strength and clearness, and there was no soreness or pain in the larynx. He continued to improve, nothing further being done except the occasional application of a weak solution of chloride of zinc (15 grs. to ℥j aquæ), and upon the 20th day after the operation was discharged with a good, clear, strong voice. I saw this gentleman several times after the operation, and he had no return of his old trouble.

Case II.—*Fibroma of Vocal Cord—Removal—Cure.*—Mr. W., æt. 29 years, coal merchant of this city, consulted me September 10th, 1874, for an obstinate hoarseness, amounting at times to complete aphonia, from which he had been suffering for the last three years. He could not attribute the origin of his trouble to any particular cause, except that he was formerly much exposed to dust—being in and about coal yards continuously—and had been, previous to his present trouble, annoyed at times by a trifling laryngeal irritation. His hoarseness developed itself gradually, and had been getting much worse of late. He spent the best part of the previous winter South in the hope of getting relief, but without any apparent benefit. Any extra effort to elevate the voice caused slight pain, so that he always spoke in a deep, hoarse whisper. He had a slight irritative cough, but no ex-

pectoration; some little dyspnœa, but this was not constant. His general health was good at the time, but he had had typhoid fever (mild form) two years ago—being the only sickness since his laryngeal trouble began. He had been under various forms of medical treatment, but had never received any permanent benefit.

Examination of his chest revealed nothing abnormal. Some difficulty was experienced upon attempting to make a laryngoscopic examination on account of the excessive sensibility of the pharynx; and it was not till the following day that a thorough and satisfactory view of the entire laryngeal cavity was obtained. Then there was found a small, smooth, bright red fibroma, situated upon the upper surface of the left vocal cord about the middle of the same, attached by a pedicle to the lower margin of the ventricle. The accompanying drawing shows tolerably well the situation and size of the growth. The patient, upon slightly coughing, was able to elevate the growth sufficiently to show that there was no attachment to the free border of the cord. Six or seven attempts were made to seize the polyp with a pair of antero-posterior forceps on as many different occasions, but always failed—partially on account of exceeding irritability of the pharyngo-laryngeal cavity, and partially on account of the patient's nervousness. Finally, upon the eighth attempt, the growth was firmly seized by the forceps, and torn away from its base.



The operation was followed by a sub-acute inflammation involving the left cord and ventricular band, but subsided sufficiently to show the improvement in the voice upon the third day, when the patient was able to speak without pain and in a tolerably clear tone. Under mild astringent applications, the inflammation subsided, the voice continued to improve, and upon the 24th day after the operation, the patient was discharged, having a clear, strong voice.

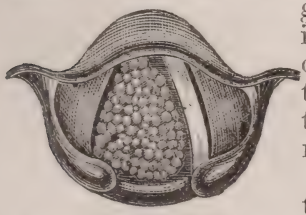
Microscopic examination of the growth showed it to consist entirely of white fibrous tissue.

Case III.—*Papillomatous Growth of the Right Vocal Cord—Removal—Cure.*—The following case is an exceedingly beautiful illustration of a large papillomatous growth which came under my observation January 3d, 1875, in a lady, Mrs. F., æt. 35 years. She had been suffering from complete aphonia for the past two years, with excessive dyspnœa, which had be-

come so severe of late that at times she almost despaired of her life. Frequently at night, she was awakened with a terrible feeling of suffocation, and in an attack which she had had the previous week, feared that she would not survive till morning. Any exertion or a fit of laughter was sure to bring on one of these attacks of dyspnœa. Her general health was good, and she could not assign her present trouble to any particular cause.

Examination of the chest was negative, but upon placing the stethoscope over the trachea and larynx (particularly the latter), loud, stridulous respiration could be heard. Pressure being made upon the larynx, a severe attack of coughing and dyspnœa was produced, but no pain.

Upon the patient being submitted to a laryngoscopic examination, the cause of all the above symptoms was found to be a large, dark red, papillomatous growth, situated upon and growing from the entire upper surface of the right vocal cord, completely hiding the cord from view, and filling up almost completely the glottis. The growth was as large as a medium-sized filbert, and it is a matter of some surprise that the patient was able to respire at all through the very small aperture at the anterior and posterior portions of the growth. The accompanying drawing gives a very good idea of the condition of affairs. The surrounding tissues were excessively hyperæmic, the opposite cord being of a dusky red hue its entire length.



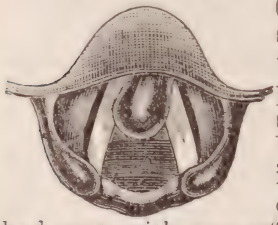
The patient willingly consented to any procedure which offered a chance of relief, and an immediate attempt for its removal was decided upon. The growth was readily seized on account of its large size, and more than half of it was removed. Intense spasm followed for a few minutes, but the relief to the dyspnœa was immediate, and a very slight improvement was noticeable in the voice. No inflammation was set up by the operation, and upon the second day following, the remaining portion of the growth was crushed and torn away. No spasm followed this second operation, and decided improvement in the voice resulted. Two or three very small nodules of the growth were left at its insertion, but they atrophied and completely disappeared at the end of a week. The patient remained under treatment for several weeks after the operation, when she left the city. In the meantime, the aphonia had passed away, but her voice was very husky and deep.

I saw her again two months later and she had completely recovered her voice, but was liable to attacks of huskiness upon exposure in damp weather, and after any excessive use of her voice.

Upon examination, no sign of the former trouble was to be seen, except a slight congestion and hypertrophy of the right cord, the former seat of the growth.

Case IV.—*Fibro Cellular Polyp at the Anterior Commissure of the Vocal Cords—Removal—Cure.*—George N., æt. 27, came under my observation May 10th, 1874, at the Special Dispensary for Diseases of the Throat. The patient had had aphonia for the last eighteen months—resulting, he thought, from a bad cold contracted about that time. He had gotten worse lately, and said he felt at times as if there was some obstruction in his throat. He had no pain in his larynx, but had a slight cough now and then, and suffered from slight dyspnœa. He had received medical treatment for his trouble, but with negative result. His general health was good, and he had never had any constitutional disease.

A laryngoscopic examination was made, and a pear-shaped, round, smooth growth, about the size of a hominy bean (well shown in the drawing), was seen situated at the anterior commissure of the vocal cords, growing from the upper surface of the left cord at its insertion. In appearance, it was of a bright red color and very fleshy looking. At first, I was disposed, on account of its appearance, to think that I had met with one of those exceedingly rare myxomatous growths; but after a more careful examination, such was not the case, and I became convinced that the growth was either fibrous or fibro-cellular. Upon attempted phonation, the tumor raised itself up, resting upon the cords. A delicate probe, properly curved and bent at its end so as to form a hook, was passed down beneath the growth, raising it up and showing its insertion. On account of the unusual command which the patient had over his larynx, the growth was readily removed upon the first examination in the presence of several of the assistants of the Dispensary—being crushed and torn away by a pair of lateral laryngeal forceps. The dyspnœa was relieved at once, and the patient's voice greatly improved. A small shred of the growth remained at the point of its insertion, which was touched lightly with nitrate of silver fused upon a probe.



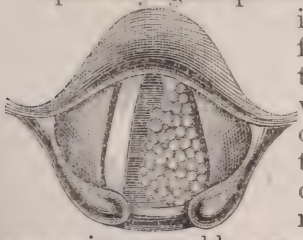
Upon the patient's next visit to the Dispensary, which was the second day after the operation, nothing remained of the neoplasm. His voice was still improving, and there were none of his former uncomfortable symptoms.

Nothing more was seen of the case till the 3d of April following, when his voice was "as good as ever"—his own words—and the larynx presented a healthy appearance.

As surmised above, the growth proved to be, upon microscopic examination, a fibro-cellular polyp.

Case V.—*Papilloma of the Left Cord—Removal—Cure.*—*October* 4th, 1875, Mr. Henry C., of Cumberland, Md., consulted me through the advice of his physician for severe dyspnœa and aphonia, which had been developing gradually during the last three years. His general health has always been good, though he had often noticed, previous to the beginning of his present trouble, a slight weakness and irritability of his throat. The dyspnœa was continuous, and frequently so severe as to completely exhaust him. Some difficulty in sleeping has been experienced of late—frequently being awakened with a feeling of suffocation. He had a frequent disposition to clear the throat, but did not expectorate anything except a little thick, ropy mucus. He had also a slight tickling cough, which he situated entirely in his larynx. Chest examination gave a negative result. His physical appearance was excellent; his weight being about one hundred and fifty pounds.

Upon laryngoscopic inspection, a large papilloma, as shown in the drawing, was seen growing from and upon the upper surface of the left cord, hiding entirely from view the posterior and middle third of the same. Associated with it, there was complete immobility of the cord, constituting a unilateral paralysis of the same. The right cord was quite movable, approaching to the median line, passing beneath the growth and pushing it before it. There was present a very perceptible atrophy of the left ventricular band, as well as the surrounding parts upon the same side of the larynx. The growth was of a dusky red hue, whilst the larynx upon the same side had a pale, anæmic look.



No difficulty was experienced in the removal of the growth, about one-half of it being removed at the first sitting with antero-posterior laryngeal forceps. No unpleasant symptoms followed, and considerable relief of the dyspnœa was experienced, but no improvement occurred in the voice.

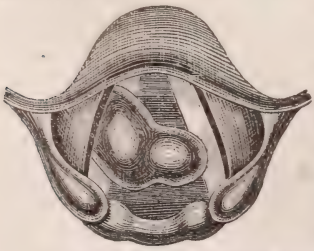
No further interference was undertaken for ten days, preferring to wait to see what would be the result of the first operation, but the aphonia showed no tendency to improve.

I decided to remove the remainder of the growth, which had slightly atrophied, and accomplished it in the same manner as on the former occasion. No unpleasant results followed this second operation, but still there was no improvement in the voice, and a slight tendency to dyspnœa remained. The marked atrophy of the cord upon which the growth was situated was now plainly visible, and the want of power upon that side of the larynx easily accounted for. Applications of solutions of iron, and direct application of electricity to the laryngeal muscles, with directions to the patient to attempt phonation as frequent as possible, were carried out for six weeks with a continuous and gradual improvement.

November 27th, the patient returned to his home with a tolerably good voice. Six months later, I heard indirectly from him; there had been no return of the growth, and his phonetic powers had entirely returned.

Case VI.—*Fibro-Cellular Growth upon Right Vocal Cord. November* 23, 1877. Mr. Robert D., of Richmond, Va., consulted me for loss of voice and difficulty of breathing, which had been gradually coming on since the early part of 1874. In the last six months, he had been growing rapidly worse, not being able to speak above a very faint whisper; and to do that, required the greatest effort. The dyspnœa was very distressing. He had a slight paroxysmal cough, but no expectoration; he also had dull, aching pains in the upper portion of his chest. In other respects, his health was good.

Chest examination revealed nothing abnormal. The laryngoscope showed a large, red, nodular growth, situated upon the right cord and growing from the middle of the ventricle. The growth filled at least one-third of the glottis, and seemed to have a depression running across it, as if it was due to a previous operation or ulceration. The drawing gives a good idea of the size, situation and form of the growth. A probe was bent and passed down around the neoplasm, lifting it up and showing the attachment of the base. The cords were greatly tumefied and congested. Operative measures were decided upon at once, and the throat being capacious and unusually tolerant, no difficulty was experienced in the introduction of in-



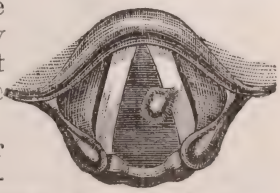
struments. Upon the following day, the growth was removed entire by Stoerk's écraseur—the guard containing the loop of wire being passed over the growth to its base.

The patient coughed up about a teaspoonful of blood immediately after the operation, but no unpleasant symptoms followed. There was relief at once to the dyspnœa, but not that relief to the patient's voice that I anticipated, and it was several days before his voice began to recover itself. He remained under treatment till the 4th of December, when he returned home—his voice then being quite strong and clear.

I saw him again January 15th, 1878, when his voice was quite natural, and examination of the throat showed no signs of his former trouble.

The growth was examined microscopically and found to consist of fine fibro-cellular tissue, interlacing and crossing each other in circular bands.

Case VII.—*Papilloma on the Left Vocal Cord—Destruction with Zinc Chloride—Recovery.*—Mr. Louis T., æt. 34, of this city, consulted me January 7th, 1878, for aphonia, from which he had been suffering during the last five months. There was no dyspnœa present, and he complained only of the great effort required to speak and the tired, exhausted feeling in his throat after attempting to use his voice. He attributed his aphonia to excessive use of his voice last autumn in driving a very fast animal, as he always noticed, after returning from his drives, that his voice was quite lost. He had also been an excessive smoker, and it seemed to irritate his throat and aggravate his hoarseness. In every other respect his health was good. Examination of his larynx showed a small papilloma situated upon the free margin of the left cord. The cords were very much tumefied and congested, particularly the one upon which the growth was situated. The drawing shows very well the situation and size of the growth. The patient positively declined instrumental interference, but desired something to be done to relieve his condition.



Direct application with a camel's hair pencil of a strong solution of the chloride of zinc (30 grs. to aquæ ℥j) was made to the growth every alternate day for several weeks, with considerable improvement to his voice, and marked diminution in the size of the growth.

Upon *February* 3d, the patient consented to my making an attempt to remove the growth with the forceps, which was

only partially successful. About half of the neoplasm being crushed, great difficulty was experienced in seizing it, on account of its smallness and the nervousness of the patient. He again declined the use of instruments, insisting upon the previous treatment being renewed, which was done; and upon *March* 12th, he was last seen, his voice was quite clear and strong, and the neoplasm about the size of a millet seed, causing him no inconvenience. I have since heard that his voice remains quite clear, and he considers himself well.

Case VIII.—*Fibroma of Left Vocal Cord—Removal.*—Miss M., æt. 31, of this city, a teacher of vocal music, was sent to me by her physician, *March* 27th, 1878, for a laryngoscopic examination, and to ascertain the cause of an obstinate aphonia which she had had for the past eighteen months. In *September*, 1876, she contracted a severe cold, which left her very much debilitated and suffering from a weakness of her voice. Under the care of her medical adviser, she got much better, but in the following October, she sang at a concert, overstraining her voice and leaving her extremely hoarse. Since then, she has not been able to sing a note, and her voice has been almost completely lost. She had very little dyspnœa, and that only on walking rapidly, or on making any extra exertion. She had considerable dryness, and accumulation of a thick tenacious mucus in the throat. The mirror showed a small, red, fleshy-looking, pear-shaped fibroid growth, growing from the upper surface, middle third of the left vocal cord, hanging pendant between the cords; and upon attempted approximation, it was hidden entirely from view, except at its base. Hyperæmia of the cords and surrounding tissues was present, with considerable thickening of the pharyngo-laryngeal membrane. She was sent back to her medical adviser with my written diagnosis and opinion of her case.

March 29th, she returned to me for treatment, desiring to have the growth removed.

Several attempts were made upon the same day to remove the growth with Fauvel's antero-posterior forceps, but without success, the patient being exceedingly nervous and her throat very irritable.

An appointment was made for another attempt upon *April* 1st, and after the free use of ice, I succeeded in getting hold of the growth and removing it entire. There was decided

improvement in the voice immediately after the operation, the patient being able to speak "better than for months."

Astringent applications have been applied every other day since, and the voice is gradually recovering its former strength and flexibility. She is still under treatment, and I have no doubt will recover the full use of her phonetic powers.

67 *N. Charles Street.*

ART. IV.—**Diphtheria Treated by Sodium Sulpho-Carbolate; a Report of Seventeen Cases, with Three Deaths.** By HENRY P. WENZEL, M. D., Theresa, Wisconsin.

This subject has been so thoroughly ventilated, that little, if anything, new can be presented *pro* or *contra*. That some epidemics are more malignant than others is certain; and that some factors have not been taken into consideration, is equally true. But I will here only attempt to present some facts which came under my observation during the recent epidemic. I present, very briefly, the notes of seventeen cases, three of whom died. I treated many more, of which none died, but notes were not kept of them. All the cases reported are either German born or of German extraction.

Case I.—Tom S. was taken sick August 26, 1877. I saw the case two days later. He had constitutional disturbance; partial loss of phonation; large pellicles on both tonsils, soft palate, and on the walls of the pharynx; also tenderness and swelling of the chain of lymphatics in the neck—and fetid breath. He was put on ten grains of sulpho-carbolate of sodium every two hours. His throat was clean and breath pure on the fifteenth day. Paralysis of the vocal cords, with impaired motion of the tongue, appeared on the twentieth day. He recovered on a tonic course of treatment in ten weeks.

Case II.—Clara F., age 20, came home sick September 7, 1877. There was difficulty of breathing and of swallowing; fever and headache; large pellicles on palate and tonsils; tumefied lymphatics in the neck. Prescribed fifteen grains sulpho-carbolate of soda every two hours. Complete recovery in nine days.

Case III.—Lizzette F., age 16; sister to Clara, was taken one week after her sister came home. She had accelerated

pulse; high fever; headache; thick patches of a grayish, pultaceous character on both tonsils, and on the posterior walls of the pharynx; and tenderness and tumefaction of the lymphatics in the neck. Administered fifteen grains of sulpho-carbolate of soda every three hours. Recovery in five days.

Four more in the same family were taken with a mild form of diphtheria. They were treated with the sulpho-carbolate, and made good recoveries. I took no notes of these cases.

Case IV.—J. G., age 17, was taken September 20, 1877, with difficult respiration; high fever and great prostration. There were large patches on the tonsils and lateral walls of the pharynx; tumefaction of the lymphatic glands under the sterno-mastoid; severe headache, and difficult deglutition. Ordered twenty grains sulpho-carbolate of soda every four hours, and chlorate potash mixture* freely locally. He made a good recovery in twelve days.

Case V.—Rudolph J., age 7, was prostrated several days ago. I was called September 28, 1877. Temperature 103° F.; pulse 140; great prostration; difficult respiration and fetid breath; hoarseness; pellicles on the soft palate, tonsils, posterior walls of the pharynx, and *in the larynx;* and tenderness of the lymphatic glands in the neck. Advised immediate tracheotomy, which was refused. Directed two grains quinia, and five grains sulpho-carbolate of soda every two hours; whiskey freely; chlorate potash mixture locally.

Sept. 29. Fever reduced; fetor strong; pellicles larger and of a dirty color. Continue treatment; apply the mixture every half hour.

Sept. 30. Temperature 99° F.; pulse 100; called for a little food. Continue treatment.

On the afternoon of October 1st, he was suddenly paralyzed with loss of phonation, which persisted until 2 o'clock A. M., October 2d, when partial motion and speech returned. Shortly afterwards, respiration became stertorous, and he died in convulsions at half-past six in the morning. His body turned black a few hours after death.

Chlorate of potash	℥j.
Mur. tincture of iron	℥iij.
Dilute phosphoric acid	℥ij.
Tincture guaiaci	℥ij.
Honey	℥j.
Pure water added to make	f℥iv.

℞. Sig. Use as a gargle frequently, and also *swallow.* Do not drink water for fifteen minutes afterwards.

Case VI.—Bertha, age 7, sister to Rudolph, was taken September 26th, with croupous cough, loss of appetite, and restlessness. I saw her on the 28th. Temperature 104° F.; pulse 140; thick pellicles on palate, pillars of fauces, tonsils and walls of the pharynx, extending into the larynx; orthopnœa; tenderness and tumefaction of the parotids, and of the deep lymphatics of the neck. Tracheotomy refused. Prognosis fatal. One grain quinia, three grains sulpho-carbolate soda every two hours; whiskey freely. Cold cloths constantly applied to neck.

Sept. 29. Temperature 105° F.; pulse very irregular, 160; face livid; tracheal and bronchial râles; orthopnœa excessive; heart tumultuous and indications of the formation of clots. Insisted on tracheotomy as the *dernier resort*, which was rudely refused. I succeeded in removing a large piece of membrane from the pharynx. She died two hours later (3 P. M.), and turned black in an hour.

Case VII.—Emil, age 3, brother to Rudolph, was taken September 28th. Ordered two grains sulpho-carbolate of soda every two hours.

Sept. 29. No change; six grains every three hours.

Sept. 30. Temperature 104° F.; pulse 140; very delirious; tumefaction of pharyngeal mucous membrane and of glottis; tenderness of lymphatic glands in the neck, and of the parotids—no pellicles. Ice to neck constantly; one-half grain quinia in a teaspoonful of whiskey every two hours; continue soda.

Oct. 1. Respiration easier; tumefaction subsiding; temperature 99.5° F.; pulse 100; no exudation in pharynx or on tonsils. Continue treatment; one grain calomel and ipecac, each, every three hours.

Oct. 5. Doing well; subsequently made a good recovery.

Case VIII.—Age, nine months, sister to Rudolph, was taken September 30th. Small pellicles on tonsils; some fever; but little constitutional disturbance. Directed two grains of soda sulpho-carbolate to be given every two hours. Complete recovery in three days.

Case IX.—George Z., age 17, was taken with sore throat, fever and headache, and partial paralysis of the extremities, October 1st. I was called on the 7th. Temperature 106° F.; pulse irregular, 124; large pellicles on palate, tonsils and posterior walls of the pharynx; pain in left parotid, and tenderness of chain of lymphatics on same side; great depression. To have five grains quinia in a tablespoonful of whiskey every three hours.

Oct. 8. Temperature 103° F.; continue treatment.

Oct. 11. Temperature 98.6° F.; pulse 80; membrane thrown off; continue treatment.

Oct. 12. Convalescing; three grains quinia and ten drops muriated tincture of iron every six hours. Complete recovery on the 17th day (Oct. 17th).

Case X.—Emma H., age 17, was taken with nausea, vomiting, headache, and general depression. I saw her November 27th. Temperature 103° F.; pulse 130; large pellicles on soft palate, tonsils, and posterior walls of the pharynx; tumefaction of parotids and lymphatics of the neck, and pain on opening the mouth. Compound jalap powder (20 grs.) at once; ten grains sulpho-carbolate soda every three hours; chlorate potash mixture locally. She made a good recovery in nine days.

Case XI.—Maria J., age 3, was prostrated December 10th. I saw her next day. Rapid, irregular pulse; high fever; delirium; small patches on tonsils and posterior walls of the pharynx. Prescribed chlorate potash mixture, a teaspoonful every two or three hours.

Dec. 12. Some better. Her father has just read of a great cure for diphtheria, in his paper, which he will try, and "send for you if she gets worse." "Croupous" symptoms developed on the fourth day, and she died before I got to see her.

Case XII.—Dora S., age 5, was taken December 24th, with great constitutional disturbance and depression; small pellicles developed in the throat; tumefaction and tenderness of the parotids, and lymphatics in the neck. Tincture of iron (muriated) was applied to the throat; two grains quinia to be taken in a teaspoonful of diluted brandy every four hours. Good recovery in twelve days.

Case XIII.—Peter T., age 14, was taken January 13th, 1878. Large diphtheritic patches appeared on the left tonsil, soft palate and posterior walls of the pharynx; pain was caused on separating the jaws; little constitutional disturbance. Sol. lapis infernalis locally; ten grains sulpho-carbolate soda every four hours. Recovery in eight days.

Case XIV.—E. P., age 13, was taken with sore throat, fever, and swelling of the lymphatics in the neck on January 27th, 1878. Large pellicles appeared on tonsils and in pharynx. Prescribed ten grains sulpho-carbolate soda every four hours; chlorate potash mixture locally. Recovery in eight days.

Case XV.—W. P., age 11, brother to E. P., has sore throat, headache, and pain on separating the jaws; well developed diphtheritic patches (January 31st). Six grains sulpho-carbolate soda every four hours. Recovery in ten days.

Case XVI.—August M., age 6 (February 20th, 1878); pulse 135; temperature 101°; tenderness and tumefaction of parotids and lymphatics of the neck; patches on tonsils, palate, and walls of the pharynx. Apply a bacon rind, soaked in hot kerosine oil, locally, on the outside of the throat; internally, chlorate potash mixture, teaspoonful every three hours. Improvement next day; recovery on the eighth.

Case XVII.—Brother to August (age 4), was taken February 25th, with œdema of the lymphatic glands of the neck; pain on opening the mouth; pellicles on tonsils and pharynx. General symptoms light. Same treatment as preceding case. Complete recovery in five days.

Remarks.—In cases I, II, IV, V, XIV and XVI, there was swelling (and tenderness) of the lymphatic glands under the sterno-mastoid muscles, and pain on opening the mouth; or swelling (and pain) of the parotids in cases III, VI, VII, IX, X, XII, XIII, XV, XVII. Nearly every case suffered headache; this was probably caused by reflex action, resulting from pressure. Cases V and VI could probably have been saved by tracheotomy. Case XI could have been saved if the newspaper item had not interferred. Cases VII and IX were improved by quinia and whiskey, as was also case XII, who required active stimulation. There was no indication of intoxication until the patients had perceptibly improved. Most cases suffered from urinary suppression. The sulpho-carbolate of soda appeared to act on the kidneys, as increased flow always followed its administration; increased doses caused purgation. Cases I, II, III, IV, VIII, X, XIII, XIV and XV improved on sulpho-carbolate of soda. Cases XVI and XVII would probably have recovered under any treatment. Cases V and VI died of acute blood poisoning, and case XI was killed by a newspaper item!

Location.—The residence of case I was at the foot of a high hill, on the edge of a partially drained marsh. The cellar was damp and mouldy; there was an adjoining filthy barn yard; there was a strong odor of decaying vegetables, and much vegetable matter had been washed into the dooryard by a recent heavy rain. None of the family had been in contact with other persons for some time. There is no clue to contagion—it appears to be a local development of the diphtheritic poison. He was the only one taken sick of the family.

Cases II and III lived about three miles in a southeast direction, on a high hill of drift, underlaid with gravel. The surroundings were pure and sweet. None of the family were taken until case II came home from Fondu Lac, where diphtheria and scarlatina had prevailed. Case III took the disease by contact, as did also the remaining children of the family.

Case IV was a blacksmith's apprentice, at Campellsport, twelve miles from his home, which was seven miles from case I, in a northwest direction. Diphtheritic sore throat had been reported at Campellsport, and the patient came home sick. No other member of the family was affected.

Case V lived on the bank of a creek, which drains a large marsh. This marsh had been submerged by a heavy rain. The yard was filthy, and the surroundings fetid. He visited his uncle, ten miles south, passing case I on the way, and having free communication with case II, from which his uncle resided one-third of a mile. He "took" sick and was brought home September 23d.

Case VI took the disease by contact, as did also cases VII and VIII. The putrid surroundings indubitably were the cause of the malignancy of the disease. So soon as I had completely isolated cases VII and VIII, and lavishly used, fresh, unslaked lime in, around and under the house, case VII began to improve.

Case IX resides fifteen miles south from case V, on a piece of loam almost level. The barn is on the side of a hill close by, to the east, and the barnyard drains towards the house. The well was nearly midway between the barn and house, and received some of the barnyard brine by percolation. The walls of the house were damp, and the cellar filthy. I could not ascertain contagious communication. He was the only member of the family affected.

Case X learned dressmaking at Mayville, seven miles west from her home. Diphtheria had prevailed, and some died; several of her friends in the shop had the disease; she was affected by contact, and came home sick.

Case XI lived near a large marsh, two miles northwest from case IX, and four miles south from case X. Her father

had been at Mayville frequently during the epidemic. Communication between cases X and IX was also possible. Besides, the cellar was filthy and unventilated, and the surroundings foul.

Case XII resides on Rock river; the surroundings are neat, but the walls of the house constantly damp and cold. Her father is a saddler; he was frequently in contact with people from Mayville, also with friends of cases I, II, X, XI and possibly IX. This was the only case (XII) of diphtheria that occurred in the village (300 inhabitants) of Theresa.

Case XIII resides in Lomira Centre, a village of about 200 people. His father is a merchant; the surroundings are neat. Members of the family of cases IV and V purchased their necessaries at this store. There is a saloon in the same building. His was the only case in Lomira. The sister of cases XIV and XV was at Mayville with case X, and a few days after her return home, both the boys were taken. No other members of the family were affected.

Cases XVI and XVII lived on a low hill, at the foot of which flows a large creek, that drains, in part, a large mill pond. The yard was very filthy, and the atmosphere of the house putrid. Distance from case X, one-half mile; from cases XIV and XV and XII, a mile and a half. A few days before the older boy was taken, they had a quilting, and case X and the sister of XIV and XV were present.

The fall and winter were noted for heavy and frequent rains, and a cold, damp atmosphere.

Conclusion.—1st. Diphtheria may be generated by filth, *plus* a substance in the atmosphere, at present unknown.

2d. Diphtheria is infectious and contagious under certain conditions, and may be transferred indefinitely at indefinite but limited time.

3d. Filth increases the malignancy of diphtheria.

4th. Diphtheria is *not identical* with croup; but croupous symptoms may present themselves at any time. No case is absolutely safe from sequelæ—especially paralysis and lesions of the kidneys. Malignant cases may succumb before a membrane is developed in the throat.

5th. Isolation and cleanliness mitigate its virulence.

6th. Large doses of quinia and alcoholic stimulants are indicated and necessary in severe cases, to prevent collapse.

7th. Sulpho-carbolate of soda is a valuable remedy in diphtheria. The drug probably destroyed the microscopic ferments in the blood.

8th. Tracheotomy should be performed early; the great death-rate is due to the long delays and not to the operation. If it does not save life, it relieves the patient.

9th. Local applications are useless. Diphtheria is a contagious constitutional disease, presenting general and local symptoms. Our patients and their friends desire us to do something; we make local applications to the throat to satisfy their whims, not to cure the patient.

10th. The publications of prescriptions, to cure diphtheria or any other dangerous disease, is reprehensible, of doubtful utility and fraught with danger. The press is a mighty power, and cures published have great weight with the general public, especially if it is recommended by some savant. (?) The State Boards of Health should be the only parties who would recommend tried methods, in time of need, as preventives.

ART. V.—**Restoration of the Inferior Maxilla after Removal.**
[Reported by Prof. J. B. HODGKIN, Baltimore College of Dental Surgery, Washington, D. C.]

Dr. George B. Reynolds, Visiting Physician to "Bay View Asylum," and formerly Resident Physician of the Washington University Hospital, presented to the Class of the Dental College, Willie ——, aged eleven years, the child of German parents, for exhibition and remarks.

Dr. Reynolds said: The case before you, young gentlemen, is one of great interest, not only from its history, but from its rare occurrence. It is a case of necrosis of the lower maxilla, its successful removal, and the subsequent reproduction of that bone.

I need not explain to you the nature of necrosis of bone, and will only allude to some of the causes of the death of this bone under discussion. They may be from accident, as from blows upon the face, fractures, &c; the malady known as

the phosphorus disease, to which those who work in match factories are most liable; extensive mercurial salivation also may cause necrosis of this bone. It seems, sometimes, also to arise from causes which we call idiopathic, or, so to speak, of itself, having its origin in some depravity of the constitution.

Now, whether the case before us was a case of necrosis arising from mercurial salivation, or whether it arose primarily from some vice of this boy's constitution, some taint of the blood, it is difficult to decide; and though there are reasons for suspecting the first-named cause as bringing on the disease with its formidable results, yet I should rather be inclined to regard the case as one in which there exists a tendency to trouble—a condition of affairs only requiring occasion to develop the latent evil.

The history of this case is somewhat obscure. When Willie —— first fell into the hands of Dr. H. B. Trist, who was then Professor of Anatomy in the Washington University School of Medicine, and myself, he had been ill for some time. His whole face was much swelled, indicating great inflammation of the parts, and there were seen three or four fistulous openings about the angle of the jaw, upon the left side, and down upon the neck, much such sinuses as you would see in suppurating scrofulous cervical glands. The fœtor from these discharging openings, and from others within the mouth, was so offensive that those having charge of him had left him to himself as far as possible, and he was the sole occupant of his room. He was in a most deplorable condition of general health, emaciated and worn down—his whole system so run down as to render the recovery of his health a problem, even should he be so fortunate as to get rid of his local disorder—the necrosed maxilla. You will understand that with all these outwardly discharging ulcers, and a still larger number discharging within the mouth, the pus being unavoidably swallowed with his food, and the constantly inhaled fœtor, that his condition was as deplorable as could well be.

The previous history of the case was so obscure as not to throw much light on it. The first notice, his mother says, of

anything wrong, was a twisting of his mouth to one side, a condition we all recognize as facial paralysis, a lesion of one of the seventh pair of nerves. But we have no knowledge as to whether some previous lesion of the bones of the face had brought this trouble on by reflex action, or whether this was really the initial point of the subsequent serious trouble. Soon after this, he is reported as having been sick, and a doctor gave him some "whitish-grey powders" (most probably calomel, as there was the peculiar mercurial fetor in the breath), and that afterwards he had some trouble with his teeth, and that a dentist had extracted one or more. Then the trouble came on, in the depths of which we found him, as above stated. Had this dentist the acuteness that should characterize your profession, and could we find him now, he might throw some light upon this history, but no one knows who he is, nor is it probable that his observations went further than the teeth to which his attention was called.

Our diagnosis of Willie's case was, that there was necrosis of the lower jaw, and in extent it seemed to comprise almost the entire bone. An operation was clearly indicated. It was absolutely necessary that the dead bone should be removed, but it was manifestly impossible to do this in his present physical condition, with his health all broken down; for such an operation he had not sufficient strength. Accordingly, he was put upon iron (the muriated tincture), quinine and cod-liver oil, and these were used so successfully, that in a short time we had the satisfaction of seeing his appetite returning, his strength improving, and the whole constitution being renovated.

A most interesting question now arose as to the method of getting rid of the diseased and dead bone. The ordinary method of procedure is to remove it from without, an operation of formidable magnitude, involving the severance of the facial artery, and making a ghastly wound, and leaving an equally ghastly scar for life. And the idea was suggested, "can we not remove this dead bone from within, and by piece-meal, instead of at one operation?" This latter plan was adopted, and so successfully, that, at intervals extending over nearly a year, pieces of the bone were removed, as the

case seemed to require it; removing the sequestra as they separated, making, for this purpose, incisions in the gum overlying the jaw. All this took a long time. As I have said, we were, perhaps, a year in getting out these pieces which I show you. The bone required amputation at the right angle of the jaw, and a little dissecting out at the left articulation. You observe from these pieces (and there are a good many of them, from very small spiculæ to this large piece, which includes the left ramus and condyle) that all the parts are crowded and honeycombed by the pus in which they were bathed so long. The sloughing had pretty effectively separated the bone from the soft parts.

So much for the history of the operation, and I only add that the soft parts healed readily.

But when I come to speak, as I now do, of the wonderful after-results in this case, you will understand why I class it as one of exceeding rarity. You all see for yourselves that the bone has been reproduced—that the boy has now a new jaw. True, the bone is somewhat smaller, and the chin a trifle shorter than before, and, as a matter of course, there are no teeth, save the solitary second right lower molar, which was left with the old bone of that side; and as the teeth anterior to this were erupted at the time of this operation, they were removed also, and you see some of them in the bone I show you. The articulation of the condyle is perfect in its socket —there is no stiffness, no anchylosis—in a word, the jaw, except as to diminished size and length, is perfectly reproduced.

If I had any comment to make upon this case, I would simply say that you have here an evidence of the wonderful reparative powers of nature, and that these reparative powers seem nowhere so strongly marked as in recovery from injuries of the facial bones; and we see further, that the best surgery is to get out of nature's way—keep from interference with her—help her simply by removing obstacles; and that we should not despair of the most hopeless cases.

My friend, and your Prof. Hodgkin will now talk to you on the part of the case that falls into his specialty, and discuss the question as to whether the boy can have artificial substitutes for the lost teeth. The boy, as you see, looks to be in good health, and is fat and rosy.

Clinical Reports.

The Treatment of Nasal Polypi by the Thermo-Cautery.

In the service of Professor L. McL. TIFFANY, of Baltimore, Md,

James Briggs, a butcher, was admitted into the hospital as a city patient in public wards on the 3d of April, with the following history of peculiarities:

A man of medium height, with high shoulders and limbs, well proportioned and symmetrical; thirty-two years old, though apparently much younger, with a weight of 146 pounds; calm and cheerful expression, face easily flushed under excitement and mental influence; features distorted in consequence of the deformity of the nares; the eyes sunken, of a bluish cast, the right having been lost when six years old from a fall on a stove; the left eye had a peculiar vacant look, with the habit of staring fixedly at observers; the lips thick, but not abnormally so; skin rough on account of occupation, moistened and easy to perspire when overheated; the appetite good, dinner being the principal meal; bowels costive and with difficulty acted upon; urine normal in quantity. Complained of shortness of breath, though respiration normal; the voice of a high pitch, dull and rough; pulse sixty-five per minute, full and regular.

The nares presented a very abnormal and ugly appearance; the neighboring bones were displaced, and the septum pushed toward the right by the numerous polypi which completely filled the left side of the nares; they were smaller in number and size in the right side; the nasal duct was partially obstructed, thus causing a stillicidium of tears; the alæ nasi were tense, and the size of anterior aperture very small; the mucous membrane was of a light pink, and partially covered with a muco-purulent discharge, containing a little blood, with little or no fœtor; the quantity was very great, and considerably increased in damp weather; the patient complained of great pains of a sharp and cutting character on a cold day, though not accompanied with any pain or tenderness on pressure; also, a feeling of fullness in the nostrils.

The history of the formation of the polypi dates back as far as 1863, when they were noticed as little protuberances the size of a pea, of a hard character, and very resisting. One week later, they had increased greatly in size, and be-

come very troublesome. The patient called on a physician, and three were treated by ovulsion, others were diminished in size for a time by astringent injections; but yet he says they grew very rapidly. In all, he was operated upon twenty-one times by nine different physicians within the space of fifteen years at intervals of six weeks and eight months.

The day after the patient was admitted into the hospital, Professor Tiffany made an examination and found the patient as stated above: prescribed a mild cathartic and nutritious diet, and requested patient to abstain from dinner on the following day, as the operation would be performed at an early hour.

* * At 12 o'clock on the 5th the patient was given a small drink of whiskey, and the chloroform was then freely administered. He came readily under its effects, and the Professor commenced the operation by making a vertical incision in the median line of the upper lip. The hæmorrhage was very slight, and easily controlled by the white heat of the thermo-cautery; and for fear of hæmorrhage into the larynx, a small sponge was placed in each corner of the mouth. The upper lip was carefully and neatly dissected up with the cautery without hæmorrhage; the bone pliers severed the connection of the cartilageum septum with the nasal spine, and the tissues farther dissected up with the thermo-cautery; the upper lip was now readily turned up over the bridge of the nose, and the polypi beautifully seen. The polypi were also dissected up from their base with the cautery, being of a mucous or gelatinous appearance, very vascular, and bled easily on slight pressure; in size, they averaged a hickory nut, though two very much larger (one in each nostril), being about the size of a hen egg situated in the posterior nares. Thirteen were pulled out from the floor and turbinated bones with the forceps, and their base cauterized. The roof contained equally as many and were similarly treated. In the posterior nares, the polypi being packed so firmly together as not to admit a pair of forceps, a suitable blade or point was adjusted and white heat applied, which divided them, and a small amount of oozing followed, which was controlled by the white heat of the cautery. The nostrils were sponged out, and the cautery freely used in the floor, roof and sides for any unforeseen abnormal growths. The wound was closed after complying with the rules for the repair of incised wounds, and left free. The patient was put quietly to bed, and a five per cent. solution of carbolic acid and glycerine was ordered for a spray to nostrils several times during the

day. Sulphate cinchonidia in ten-grain doses three times a day was also prescribed. The patient improved rapidly, and on the fifth day after the operation was discharged from the hospital, able to breathe clearly through the nostrils, which he had not done for several years. He now visits the hospital weekly, and presents all the signs of a successful operation, with no return of the polypi.

An interesting point in this case, as well as many others upon whom the thermo-cautery has been used in the hospital, is the readiness with which the wound healed by "first intent," without swelling, without suppuration, without cicatricial tissue, and hence without contraction or deformity. Many are adverse to the use of the cautery, on the ground that the wound only heals by "granulation" or suppuration. Such may be the sequel, but in this hospital "the process of repair" has always been brought about by the happiest results.

Case II.—*Phagedenic Ulcers Treated by Thermo-Cautery.* William Norvell, a mulatto, seaman, 27 years old, five feet eight inches in height, shoulders high and round, limbs ill-formed for man of his physique; a good weight of 140 pounds; skin very smooth and soft; hair straight, dark and interspersed with patches of gray; eyes prominent, and of a dark brown; the lips unusually thin, and features smaller than those of his race; the right hand was deformed, having been badly burnt when much younger, which now only admitted of partial use; the appetite was good, and bowels regular.

The history of the patient begins with (such as I can gather) a chancroidal sore on penis just behind the corona glandis, which was noticed about the third day after intercourse; this occurred four years ago. About four weeks later, made its appearance in each groin, immovable and adherent to the skin. Treatment consisted of poulticing, and the bubos opened spontaneously, but at different times. Two months afterwards, they healed up completely, yet remaining very hard. One year elapsed, and the whole chain of superficial glands in each groin were involved. They now became somewhat movable and very painful. One gland after another became inflamed and suppurated, extending from one inch below the anterior superior spinous process of the ilium to the same point on the opposite side. The patient used the washes of various kinds without any effect, and on the 2d of March was admitted to the hos-

pital under the treatment of Professor Tiffany, who examined the patient and found, besides numerous phagedenic ulcers in each groin, that the perineum and buttocks were also lined with ulcers; the soft chancre had been healed by cauterization. The ulcers were treated with iodoform and astringent washes, and the patient put upon tonics and a generous diet. The pain at this stage had become intense, and the patient was unable to sleep day or night, even under large doses of an anodyne.

The above treatment, with many local applications, was continued for three weeks, with little improvement. On the 30th, the patient was anæsthetized with chloroform, and the white heat of the thermo-cautery applied freely to each ulcer in the groin, and on the perineum and buttocks.

The iodide of potash was prescribed in fifteen-grain doses three times a day with a powder of calomel and subnitrate of bismuth, each one drachm, to be sprinkled on the sores twice daily. The patient has suffered but little pain since the use of the cautery, and nows rests well at night, The sores have healed entirely, except two on the perineum and the patient will be discharged in a few days as the result of rapid improvement.

Clinical Cases of Hunter McGuire, M. D., Professor of Surgery Medical College of Virginia, etc. Reported by HUGH M. TAYLOR, M. D., Richmond, Va.

Stone in Bladder Causing Chorea—Lithotomy—Recovery. H. C., white, male, æt. 20 years, was admitted to surgical clinic January 10th, 1878. He came to the hospital with diagnosis of stone in the bladder, confirmed by the sound. As he walked into the amphitheatre, well-marked choreaic movements were noticeable. He stated to the class that he had had symptoms of stone, accompanied by those of chorea, as long as he could recollect. The stone was measured with a lithotrite, but found too large and hard to crush. After a week of careful preparatory treatment, lithotomy by the left lateral method was performed, and a large oxalic stone removed. He made a rapid recovery from the operation, and when he left the hospital his chorea had nearly disappeared. This case but adds another to the many recorded cases of chorea, paralysis, &c., produced by reflected urinary trouble.

Impaction of a Piece of Bark in the Larynx of a Child—Laryngotomy—Rapid Recovery. This case is interesting because it presents an illustration of what good may result from laryngotomy for impending suffocation from mechanical causes. W. H., white, æt. six years, was admitted to the children's ward. Four days before his admission, while out fishing, he was much startled by the sudden appearance of an old woman. In gasping from fright, he sucked into his larynx a piece of bark which he had at the time in his mouth. Almost immediately violent coughing, vomiting and dyspnœa came on. When admitted to the Retreat for the Sick, four days afterwards, his countenance was livid, his eyes dull and sunken, and his general condition bad. His breathing was so loud that it resounded throughout the ward, and each inspiration was attended with a crowing, stridulous noise within the larynx. As it was quite clear that he would speedily die from suffocation, Dr. McGuire proceeded at once to open the larynx. This was accomplished with ease and without delay from hæmorrhage. Several times during the operation the administration of chloroform had to be suspended. After the larynx was opened, a long flexible probe was carried through the laryngeal opening well up into the larynx. This was followed by a violent paroxysm of coughing and vomiting, during which the piece of bark was expelled; after this, his breathing became natural. The wound healed by first intention, and happily terminated, in the shortest possible time, one of the cases which so often severely taxes the ingenuity, skill and coolness of the surgeon.

Extraction from the Eye of a Piece of Bone which had Remained Quiescent Fourteen Years.—W. H., white, male, æt. 40 years, was admitted to the sugical clinic January 25th. He stated to the class that his occupation was that of a farmer. He came to the city to see if something could not be done for his eyes; he was blind in his right eye from accident, and was fast becoming so in his left from sympathy. At the battle of Chancellorsville, his gun bursted in his hands and rendered him, for the time, *hors de combat*. When seen and examined by one of the field surgeons soon after the accident, he was found to have sustained many injuries. Among the number was an ugly corneal wound, through which the visions of the eye had emptied themselves. Failing in his attempts to find the foreign body in the eye, union was promoted. In a few weeks, he was well and reported for duty.

At the close of the war he resumed his farming, and en-

joyed excellent health until 1873. For the last five or six years he has had sharp attacks of deep-seated neuralgic pain in the injured eye, giving rise to sympathetic inflammation in the sound eye, and impairing its usefulness to such an extent as to render him unfit for his vocation. At the time of his admission, the intervals between the attacks had very much diminished, but the severity and duration of them proportionably increased. Enuclin of the stump was decided upon and accomplished by the usual method. Upon opening the eye after its removal, a piece of bone was found adherent to the inner tunics. In size and shape, it resembled very much an ossified lens. The differential diagnosis was, however, rendered positive by the orbital foramen, which pierced its center, and by the six or eight spiculæ of new bone which were growing from its edges.

I have brought this case to the notice of the profession, because it seems to me to possess some curious features. It is remarkable that the piece of bone should have remained so long imbedded in the eye without giving rise to trouble. Another motive which prompts me to publish this is to call attention to the fact that the bone was not only adherent to, but received nourishment from the membranes and grew—the spiculæ of bone resembling new points of ossific development.

Reduction of a Sub-Choracoid Luxation of the Humerus after Nine Weeks' Displacement.—Miss H., white, æt. 21 years, sustained a downward and forward dislocation of the head of the right humerus by being thrown from her carriage upon the back part of her shoulder. When seen by her local physicians, the swelling was so great that the exact nature of the injury could not be determined. When admitted to the Retreat for the Sick, nine weeks after the accident, all swelling had subsided, the symptoms made more prominent, and the differential diagnosis easy. The contour of the shoulder was lost; the deltoid depression deep and well marked; the axis of the humerus changed; when the elbow was carried out from the body she could not carry her hand to the opposite shoulder; by elevating her hand and arm, the head of the bone could be felt rotating above the axilla under the choracoid process; she carried her right elbow supported in her left hand; complained when it hung by her side of dragging, numbed sensation. The head of the bone rotated freely, and did not seem tightly bound.

This encouraged Dr. McGuire in attempting reduction. After profound anæsthesia had been produced, Dr. McGuire made prolonged extension of the arm upwards and outwards in a line towards the glenoid cavity, then quickly brought it down over a book held in the axilla under the head of the bone. The book acting as a fulcrum, and the arm as a lever, after one or two efforts he threw the head into its natural site.

The danger of this surgical process has been indelibly impressed by the accidents which have recently occurred in the hands of some of our most skillful surgeons; several fatal cases have recently been reported from rupture of the axillary artery during the manipulations.

A Case of Triple Birth with Complications. By JAMES W. TANKARD, M. D., Burgess' Store, Va.

I was called February 22d to see a negress, Louisa C., a multipara, in labor. On reaching the house, I found her in violent labor-throes, and was informed by the midwife that about six hours before my arrival she had been delivered of a healthy child, and that another was presenting. On examination, I found the right arm protruding through the vulva, with the palmar surface of the hand looking forward. Recognizing the case as one of dorso-posterior position with right shoulder presentation, I at once addressed myself to the task before me, to-wit: To turn and deliver by the feet. Unable to avail myself of the anæsthetic and relaxing effects of chloroform for want of an assistant, and having placed the patient in the usual position for such a procedure, with the buttocks near the edge of the bed, and the legs flexed, I introduced the right hand into the vagina, following the child's arm to the chest, thence passing it on over the abdomen and thighs, I found the feet near the fundus of the womb, which being seized, were brought down, the fundus being firmly pressed down by the left hand; the feet at the vulva, the arm of the child naturally enough retracted into the womb, following the head and chest in its altered position, and version was completed, when, with usual care in the management of breech presentations, delivery was very soon effected. The child, a female, was dead, as was ascertained by the blackened appearance of the protruded arm prior to the delivery. Immediately after the delivery, I applied my hand to the ab-

domen (as is my custom) to ascertain if the womb had contracted, and what was my surprise to find its dimensions apparently but little reduced, though from the hardness it was evident the womb was in a state of contraction. The pains which had been vigorous prior to and during the version, scarcely subsided for even a few moments after the second birth. I at once suspected the existence of another child in utero, and examination per vaginam confirmed my suspicions—the bag of waters being in advance of the head of the third child. Nothing remarkable occurred in this connection, except that the bag of waters presented to the touch the sensation of the placenta. So positive was I that this was the case, that I attempted to deliver it, it being, as it seemed to me, wedged in the pelvis by the head of the third child; but being unable, from its attachments and from the position of the child's head, to reach the margins of what I had supposed the placenta of one or both the previously delivered children, I determined to await the result of the expulsive efforts of nature, which in due time revealed my mistake, and in about an hour after the delivery of the second child, the membranes ruptured and the phantom-placenta vanished. The child was speedily delivered by the unaided efforts of nature, though asphyxiated. The alarming hæmorrhage from the mother which now set in, necessitated temporary neglect of the child, while I addressed myself to the care of the mother. Having removed two placentæ (two of the children having one in common), I succeeded, by kneading the abdomen and the free exhibition of ergot, in effecting such contraction of the womb as controlled the hæmorrhage. I immediately turned my attention to the apparently dead child, and by means of artificial respiration partially succeeded in resuscitating it, but it died in a few hours. The mother from that time forth had a good getting up, and is now doing well, with one living child of the trio. I think the children would weigh six pounds each at the birth, though they were not weighed.

New Plan of Tying Knots in Surgical Operations. By JESSE EWELL, Jr., M. D., Hickory Grove, Va.

I have been much annoyed in tying ligatures and sutures by the first part of the knot slipping while I was tying the second part. I mean by this, that after passing one cord under the other and using proper traction, that upon bringing

together the ends of the cord again, to form the second part of the knot, and for the moment releasing traction, the counter-traction of the tissues undoes what our traction did; and when the second part of the knot is made the first part is not ready to receive it.

To remedy this we commonly press upon the first part of the knot with the finger or a probe, or hold it with a pair of forceps while we form and secure the second part. But this requires the aid of an assistant, who is not always on hand: besides, I think a surgeon should not require help in so simple an operation as tying a knot. I find that if, when making the first part of the knot, I pass one cord under the other *two or three times* instead of *only once*, this, the first part of my knot, will not slip while I am making the second part. To this may be added a third part to make it more secure.

I have never seen any mention of this plan in surgical works, and if such exists I am ignorant of it. As I have never seen this method used, except when I advised it, I think it might be new to some of the readers of the *Virginia Medical Monthly*. A knowledge of these little points go far to make up the neat operator, and it is of special comfort to the country practitioner so frequently alone at his operations.

Dislocation of Inferior Maxilla. By A. H. STEEN, M. D., Cottage Grove, Minn.

Was called to see Mrs. B. who, the messenger said, "was unable to close her mouth." On arriving at the place, I found a bilateral dislocation of the inferior maxilla, and after reduction obtained the following history: For the past two weeks the painters had been at work on the inside of her house. For the past four days has had cramps in her abdomen and limbs, with some nausea, which on the evening of April 10 culminated in vomiting, when she suddenly found herself unable to close her mouth. The blue lines show very faintly on the gums. The patient is recovering under the use of sulphates and iodides.

Correspondence.

Oxytocic Properties of Quinine.

I have noticed for seven years the discussion as to the alleged oxytocic influence of quinine.

In malarial and supposed non-malarial districts, I have used the alkaloid, and have known no abortion to follow its use. But in ladies of a *nervous-sanguine* temperament, I have found cause for care as to quantity of and intervals between doses.

An aged physician whom I knew in Oregon more than twenty-four years ago, always used quinine combined with ergot when he thought the latter indicated. He asserted that the influence of ergot was had quicker and more powerfully, owing to the combination. He used ten grains of the quinia sulphate. Some reminiscences, which I may send you hereafter, will explain how he used them in one case of stenosis. However, there are conditions where I have known the mercurial preparations in cathartic doses followed by abortion quite speedily in the hands of the same old man, based upon his assertions.

For twenty-three years, I have been forced to give quinia sulphate to one certain lady, at intervals as a tonic after uterine hæmorrhage; and however small the doses, even one-half grain, the hæmorrhagic discharge was always reproduced, and ceased upon ceasing its administration. The hæmorrhagic condition I thought diathetic. Iron could not be borne. On removal from the moist, relaxing climate of Oregon, to the dry, bracing climate of California, 2,700 feet above tide-level, recovery followed in a few months. During the last year, I have given the alkaloid experimentally, and uniformly a discharge of apparently venous blood followed within twelve hours after a two-grain dose, more or less. This patient is of the nervo-sanguine temperament. I can give her quinine in six to ten-grain doses, if combined with twenty grains of ergot, without any bloody color following;

and the same is true if a combination of black cohosh and cimicifuga racenosa be exhibited in ten to twenty-drop doses of the fluid extract.

I have formed a rationalé, but am diffident in naming it, for all advanced practitioners, accustomed to the use of the medicines, will at once "see it."

Respectfully yours,

J. L. Coombs, M. D.

Grass Valley, Cal., April 22, 1878.

Damiana (Turnera Aphrodisiaca.)

Mr. Editor,—Seeing this drug highly recommended for its aphrodisiac virtues, I determined to give it a trial.

Mr. S., æt. 27, white man, applied to me for treatment. He told me a few years ago his right testicle became very much inflamed, which kept him in bed several days. After the swelling left, the testicle became atrophied and sensitive to the touch. He had before this been addicted habitually for several years to onanism. His desire for coition, he said, had nearly left him. On examination, I found the left testicle very soft and small, the other normal. I put him upon the usual treatment—nourishing food, nux vomica, iron and cantharides—but he did not seem to improve much. I then put him upon fluid extract damiana in drachm doses three times daily. In a short time the testicle began to enlarge, and lose its sensitiveness. It is now, after one month, about its original size, and, as Mr. S. expresses it, "Richard is himself again."

M. D. C. M. Summerlin, M. D.

Sunhill, Ga., April 23, 1878.

Don't Complain of the selfishness of the world. Deserve friends, and you will get them. It is a mistake to expect to receive welcome, hospitality, words of cheer, and help over rugged and difficult passes of life, in return for cold selfishness, which cares for nothing in the world but self. Cultivate consideration for the feelings of other people, if you would never have your own injured.

Original Translations.

Translations from the French and German. By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

Anæsthesia in Obstetric Practise.—This subject has recently been attracting a good deal of attention abroad, and quite a number of articles have appeared on the subject. A short time ago we translated the conclusions reached in a paper read by M. Pichaud before the International Medical Congress at Geneva.

M. Lucas Championniere, who is now in charge of the obstetric wards at the Cochin hospital of Paris, read a paper on this subject before the Société Médicale des Hopitaux, on the 22d of March—an abstract of which is published in *Le Progrès Médicale* for April 6th.

He states that he gives chloroform in nearly every case, and endeavors to give just enough to modify the pain without producing complete anæsthesia. This result is not always produced by the same quantity of chloroform, nor in the same period of time. The action of chloroform varies not only with respect to individual peculiarities, but there are other circumstances which modify its action very much, chief among which is the stage of the labor at which the chloroform is given. Obstetrical patients may be divided into three classes with respect to the administration of chloroform.

1. In certain cases, especially if the anæsthetic is given early in the labor, it is only necessary to drop a few drops of chloroform on a handkerchief, every now and then, to be inhaled by the patient. This affords very great relief, and the woman will complain so little that the physician, who is a novice in this mode of administration, will be surprised when the patient calls for an increased quantity of chloroform, to find that the head is pressing against the perineum. In these cases, which, it must be confessed, are not very common, a very small quantity of the anæsthetic is sufficient.

2. In other cases, especially when the labor has advanced further before the administration of chloroform is commenced, and the woman has already suffered for some hours, she does not seem to feel any relief till a much larger quantity has been given, than in the first class of cases, and a stage of much deeper insensibility is reached. These patients do not

become actually insensible, but they are very drowsy, and as soon as this drowsiness commences to pass off, they call loudly for an increased quantity of chloroform. In these cases, the interval between the successive administrations of the anæsthetic should not be very long, for if once allowed to waive, the patients are much harder to control with chloroform subsequently. During the last stage of labor, the patients show that they feel the pains, but do not seem to suffer very greatly.

3. Some women are much harder to bring under the influence of chloroform, however, than either of the preceding classes, and especially is this apt to be the case when the bag of waters has been broken for some time, and the uterus is very firmly contracted. To obtain relief from the severe sufferings in such cases, it is necessary to give the anæsthetic much more freely, but even then it should not be pushed so far as to cause *surgical* anæsthesia. The physician should endeavor to reach the stage of sleep which precedes the excitement, and should not, under ordinary circumstances, even in these severe cases, push the anæsthetic further.

Anæsthetics may be used in obstetric practise for two purposes—to alleviate the pain, and to allay the excitement which so commonly accompanies it. With respect to the uterine contractions, they are not suppressed, but are only made to come on more regularly. Indeed, chloroform exerts a very favorable influence on the progress of a natural labor, and it frequently proceeds more rapidly after the administration of an anæsthetic than before—[especially when the woman has been greatly agitated]. It is never retarded. The infant, at the moment of birth, never presents an appearance of stupor. The "getting up" of the woman is good; indeed, she recovers her strength more rapidly than when she has been exhausted by a long and tedious labor. Anæsthesia, as thus produced, is attended by no danger, and not even by any inconvenience. One fact should be borne in mind—that if the physician wishes to give the chloroform in small quantities, its administration should be commenced early, before the woman has suffered much.

If asked whether there were any contra-indications to the use of chloroform, M. Lucas Championniere would say, in reply, that it was probable there were, but cases where it was inapplicable, were of very rare occurrence. So far from thinking it dangerous in cardiac affections, he considered it especially applicable in such cases, and also in certain pulmonary affections. He mentioned a phthisical patient whom he had

recently attended in labor, when it was doubtful whether she would have survived without the chloroform.

Injuries to the Brain.—M. Duret, who is so well known in connection with investigations on the cerebral circulation, has been making some experiments recently on injuries of the brain, with a view of determining the nature of the changes which take place, in what are commonly called concussion and compression. In *Le Progrès Médicale* for April 13th and 20th, we find quite a full account of M. Duret's studies. He divides the troubles caused by injuries to the brain into primary, secondary and tertiary.

In the production of the primary troubles, he thinks the impulse communicated to the cephalo-rachidian liquid by the injury itself, plays an important part. This liquid has access to all parts of the brain through the perinæcular spaces, and M. Duret thinks there can be no doubt as to the correctness of Magendie's views, who stated that there was a communication between the arachnoid cavity and the lateral ventricles. The tension of the cephalo-rachidian fluid is greater than the atmospheric pressure; and this tension is due to the blood pressure, for it falls to zero if the carotid arteries be cut.

By reason of the elasticity of the cranium, at the moment an injury is received, there is formed at the point struck a "*cone*" of depression, and at exactly the opposite point the tension is very much elevated in consequence of a flow of cephalo-rachidian liquid to that point, and rupture of the small blood-vessels may ensue. In this way the symptoms of compression may be brought about at once.

The point which is specially liable to compression is the fourth ventricle, because when the cerebral ventricles are compressed at the moment of the injury, the only way of escape for the fluid which they contain is through the aqueduct of Sylvius, which causes the fluid to be thrown against the floor of the fourth ventricle. This is especially liable to occur if the injury is in the frontal region of the cranium. As the cephalo-rachidian fluid flows from the cranium into the spinal canal, it may be forced into the latter with such violence by an injury to the head as to cause symptoms of compression of the spinal marrow.

The primary stage presents an initial phase of tetanism; when the eyes are often convulsed the pupils are contracted, there is expulsion of urine, &c.; the respiration is suspended for some seconds, and then becomes stertorous; the pulse, at first weak and rapid, becomes slow and full. This period of contraction may last from a few seconds to a quarter of an

hour, according to the violence of the shock. These symptoms are due, says M. Duret, to the irritation of the restiform bodies by the impulse against them of the cephalo-rachidian fluid.

The second phase of the first stage is characterized by what M. Duret terms *resolution*. When the shock has not been very violent, consciousness gradually returns, respiration becomes frequent, the pulse remains slow. When the shock has been severe, these symptoms may be prolonged in the period of reaction. These symptoms are due to vascular disturbances. At the moment of the injury, the vessels of the encephalon are thrown into a state of spasm, and to this succeeds a paralysis of the vessels, which causes the symptoms which are included under the head of resolution.

The second stage is that of inflammatory reaction, and in it we have the symptoms of traumatic meningitis and encephalitis. M. Duret states that the inflammatory lesions are usually at a point *opposite* the seat of injury [a view which is by no means in harmony with the teachings of practical surgery]. The troubles due to these local lesions are of the nature either of excitations or paralyses, according to the degree and kind of the lesion produced. The symptoms, of course, vary with the region affected, whether it is connected with motion or sensation.

The third stage is that of compression of the brain and nerve centres. He points out in this connection a fact which is too generally overlooked, though Niemeyer and other writers have insisted on it heretofore—namely, that there is an inverse proportion between the amount of blood in the brain and the amount of fluid in the arachnoid cavity, and hence when the quantity of the latter is increased the amount of blood is diminished, and the symptoms which are produced are due to cerebral *anæmia*.

The signs of an excess of pressure are divided into two groups—(1) signs furnished by cerebral troubles; (2) signs furnished by bulbo-medullary troubles. The cerebral troubles vary with the degree of compression to which the brain is subjected.

Dullness of intellect, blunted sensibility, lessening of the muscular activity, drowsiness and coma, are the most striking cerebral symptoms. The bulbo-medullary troubles are connected with reflex sensibility, of which we have a fair index in the sensibility of the cornea. The eye is badly affected when the pressure approaches the arterial tension. The pulse and respirations become slower as the pressure in-

creases, but when the pressure becomes very great and exceeds the arterial tension, the pulse becomes small and very rapid, and the respiration is suspended. The temperature is lowered more and more as the pressure increases till inflammatory reaction occurs.

On Cancer of the Rectum and its Operative Treatment. By Richard Volkmann (*Sammlung Klin. Vorträge*, No. 131). This distinguished surgeon strongly advocates the extirpation of the rectum for cancer of that part. He describes, in the first place, the method he employs in the operation, and then gives the result of this mode of treatment.

He says that he is convinced that the results of the extirpation of the rectum for cancer are far more favorable than when other parts are removed for a similar affection; but, he says, in order to obtain really satisfactory results, it is necessary that the operation should be performed early, and the *whole* of the part should be removed, including the sphincter. If this is done, all the troubles connected with the disease, which is usually very painful, will be removed. Early operative treatment in these cases gives, he states, a relatively favorable prognosis. After early extirpation in these undoubted cases of cancer of the rectum, he has seen a complete cure result, and in a number of other cases relapses did not occur for a long time—once after six, once after five and once after three years. Another woman on whom he had performed this operation, died eight years subsequently of cancer of the liver, there having been no local return of the disease.

An Easy and Comparatively Harmless Method of Producing Insensibility with Chloroform (*Allg. Weiner Med. Zeitung*, No. 15, 1878). Dr. Wachsmuth, of Berlin, advises that in administering chloroform it be mixed with one-fifth its bulk of oil of turpentine. He states that this renders the danger of chloroform much less.

The turpentine exerts a "refreshing" influence on the lungs [promotes the exchange of gases?] and prevents the "paralysis of the lungs," which is so formidable an enemy when chloroform is administered in the ordinary manner. The rapidity with which the latter drug is absorbed and discharged again is very much increased when mixed with turpentine.

Proceedings of Societies.

Baltimore Academy of Medicine.

At the meetings of the Academy for the month of May, the following interesting cases were reported:

Serious Pin Injuries to the Eye.—Professor J. J. Chisolm reported the case of a little girl, two years of age, who met with a very singular accident to the right eye. Having fallen upon the chamber floor, she cried so lustily that the mother supposed her to be seriously hurt. She kept her little hand over the eye, attracting attention to this organ. After many examinations, the point of a pin was seen protruding above the mucous membrane near the caruncula. Seizing it, the pin entire was drawn out from the socket. The eye-ball had sustained no injury. Evidently, the pin had been sticking upright in the carpet. The child fell directly upon it, driving the pin, head foremost, into the socket, between the eye-ball and the nasal side of the orbit, until only its point projected.

Some time since, Professor Chisolm reported a case of even more curious pin injury. A young lady, in shaking a carpet rug, felt something strike her in the eye. A careful examination of the eye-ball revealed nothing. The patient insisting that there was some foreign substance in the eye, a further search made by her friend discovered a glistening body sticking to the upper lid. Attempts were made to brush it off, but as it did not move, it was seized by the fingers and pulled away, when much to her surprise, the entire shaft of a pin $1\frac{1}{2}$ inches long followed. Vision was blurred from the moment of the accident. When the case was examined with the ophthalmoscope, the cause of partial blindness was clearly revealed. In shaking the carpet, sufficient velocity was imparted to a pin lying upon it to cause it to strike forcibly, point foremost, the upper eye-lid, driving the pin up to its very head. The pin in its passage had impaled the eye-ball, traversing obliquely its antero-posterior diameter, and had transfixed the back of the eye at the yellow spot of Sæmerering.

Rupture of Drum Membrane.—Professor Chisolm also reported a singular case of rupture of the drum membrane in a gentleman 40 years of age. A friend coming up quietly behind him, had suddenly planted the palm of his hands on each of his ears. The sudden condensation of air in the left auditory meatus had stretched the drum head be-

yond its resisting power, and it had popped with a rent as does a paper bag when inflated and forcibly compressed. An examination in a strong light showed the vertical rent in the posterior half of the drum membrane.

Craniotomy versus Cæsarean Section.—Professor Erick asked information from members of the Academy relative to the advantages of craniotomy when contracted with the Cæsarean section. He had found it necessary to perform craniotomy fourteen times without danger to the woman, but had never performed the operation of hysterotomy. He reasoned that when either the life of the mother or the fœtus was in serious jeopardy, the more valuable life of the mother should always be protected. Such appeared to be the sentiment of the larger number of the members present, although there were some who considered the destruction of infantile life unwarrantable, and preferred the Cæsarean section, in which both mother and offspring had an equal chance for surviving the operation.

Professor McSherry introduced the subject of vaccination, and desired to have an expression of opinion from the members in reference to the degree of inflammatory re-action found in some cases where the same lymph would form typical vesicles in other members of the same family He thought that many of the spinous or inflammatory results of vaccination were attributable to constitutional peculiarities of the individual and not to bad lymph, and that the vaccination only excited local manifestations of scrofulous or other constitutional troubles which were lying dormant in the system.

Dr. Conrad, who had had a very large experience in small-pox, stated that either the vaccine lymph must have deteriorated in some countries, or that it did not give full protection to some nationalities. As physician to the Marine and Quarantine Hospital, he had had occasion to examine several thousand German emigrants. He thought that as they would exhibit from three to sixteen vaccination cicatrices, it may be said that they would average five good pustules, and yet he would have to treat cases of confluent small-pox in such subjects. He never remembered to have had a case of small-pox in an American or a negro, on whom one single good vaccination scar could be detected.

Dr. P. C. Williams referred to the tardiness of development of the bovine lymph, which was usually three or four days behind that of humanized lymph in the maturation of the vesicle. As to better protection from the bovine, he states that in his infancy he had been vaccinated by humanized virus, which had given him protection up to the present time,

notwithstanding frequent exposure. Other members had had a similar experience.

The subject fixed for the evening discussion was "*The Means of Determining the Amount of Urea*," and Dr. Uhler exhibited a very simple means of securing this end. Dr. McKew had addressed the Academy upon this subject at a previous meeting, and entered largely into the discussion of the most accurate means of determining the quantity of urea in any given specimen of urine.

Medical Society of North Carolina.*

The Society convened in Goldsborough, May 14. Dr. R. L. Payne, of Lexington, President, in the chair; Dr. L. J. Picöt, of Littleton, Secretary.

Dr. Little, of Raleigh, read a paper on the Suppression of Urine of ten days duration. The patient, a female, suffered with intense pain and nausea. There was no swelling about pubic region, and upon introducing the catheter very little urine was drawn away. She finally succumbed. Paper was referred.

Dr. Charles Duffie inquired if Dr. Little had employed jaborandi in his case. He had used it in several cases. Profuse salivation and sweating ensued, but in all his cases where there was absolute failure of the kidney to secrete urine, death resulted.

Dr. W. W. Lane reported a case of chronic psoriasis vulgaris, and exhibited beautiful colored photographs of the disease. This case was treated with Goa powder without phosphorus internally, and is rapidly getting well. At Dr. E. A. Anderson's suggestion, he used gutta percha collodion, but abandoned it and returned to Goa powder with success. The spots of psoriasis were scraped and washed, and the spots wet, and the powder rubbed on, and allowed to remain. The resulting erythema was not stubborn.

Dr. Charles J. O'Hagan thought, perhaps, the success of the domestic treatment of skin diseases by yellow dock was owing to the presence of chrysophanic acid.

Dr. O'Hagan made an oral report of three cases of lithotomy, presenting some unusual features. The first case was 21 years of age; calculus removed by lateral operation. It was a phosphatic stone three inches in length. The patient recovered. Another case was that of a man 52 years of age. The peculiarity of this operation was excessive hæmorrhage.

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*Compiled from May No., 1878, of the *North Carolina Medical Journal.*

Eleven days afterwards there was a serious secondary hæmorrhage. Two handfuls of clotted blood were expelled. The calculus was oxylate of lime. Recovered. Case third, nine years old. The calculus was cordate shape, and removed by the median operation. Recovered.

Dr. W. A. B. Norcom made some remarks on Otis' treatment of strictures. The great trouble which results from very small contractions of the urethra had not been properly recognized, nor its importance weighed. A patient of his, a young gentleman, had a small urethral contraction, and with it epilepsy. A division of the contracted urethra cured the patient entirely. The urethra had never been measured exactly before Dr. Otis measured it. He had found the exact proportion between the penis and urethra, and invented a urethrometer which was absolutely accurate. Sir H. Thompson believed that eight or nine of the English scale was large enough to indicate a cured stricture, but had since modified his opinion. Dr. Norcom explained the way Dr. Otis used his urethrometer. The strictures of small calibre are treated by a bulb-end bougie. Re-contraction of stricture after operation is due to the stricture not being entirely divided, and it was always the correct inference. Gleet is always accompanied with stricture.

Dr. O'Hagan said that the profession must not be deceived by the remarks of patients in respect to their condition, but inspect the urethra before they ventured a diagnosis.

Dr. Duffy believed that the urethra must be divided when the stricture was near the meatus; divulsion will not do.

Dr. Hyatt has been in the habit of cutting the urethra in all cases of gonorrhœa, acute or chronic, because there is almost always ponding of the gonorrhœal matter behind the contraction. When he failed, he knew he had not cut deep enough, and tried again.

Dr. Wood used the dilator of Sir H. Thompson in preference to the urethrotome, and believed that the choice between divulsion and cutting was very much as one had attained success with one or the other instrument. He had seen both succeed.

Dr. Potter had had like good success from dilatation without cutting, and always employed it.

Dr. Graham said that Dr. Otis' plan was to overcome the slight narrowing of the urethral canal, which was so often passed by as of not sufficient importance. The cure was effected when its calibre was restored, and not without.

Dr. Norcom moved that Dr. L. A. Sayre, of New York, be

made an honorary member of the Society; unanimously agreed to.

Dr. E. W. Potter related his experience in treating skin diseases with electricity. Squamous and eczematous eruptions had for a long time been treated by him, with good success, by means of the faradic current. He attached the soft sponge electrode, fixing the positive pole, and moving the negative all over the diseased surface.

During the second day, Dr. Chas. Duffy, Jr., of Newbern, read the annual essay on Diphtheria.

Dr. Norcom thought that Dr. Duffy's address was admirable and exhaustive, but thought that he had omitted a remedy in his treatment, now much in vogue, which remedy was thymol. It had all the powerful properties of carbolic acid without being poisonous.

Dr. J. K. Hall also read a paper on the subject.

Dr. McDuffie, of Fayetteville, detailed cases in his practice of pharyngeal paralysis, in which he kept the patients alive for some time by rectal alimentation.

Dr. Haigh, of Fayetteville, entered his protest against the indiscriminate rejection of all local applications to the throat in this disease. He believed that there was an incipient stage, resembling very much follicular pharyngitis, in which careful examination would reveal generally in the sulcus posterior to, or upon the tonsil, a deposit which was not a false membrane, but of a fungoid character, the apparent nidus of the morbific matter. If this was destroyed, all febrile symptoms would disappear in twenty-four hours, and the membranous exudation never would appear. When this deposit took place in the posterior nares or behind the velum, it frequently escaped observation, and hence the fatality in these cases.

He proposes, that when we see these cases in time, we should apply with a soft surgeon's sponge the following: ℞. Tannin; cupri sulph., āā grs. x; aquæ, ℥ j. M. S. Apply once or twice very gently. As a general rule, it will completely destroy the deposit, and act as a thorough astringent to the inflamed surfaces. Indiscriminate applications to the throat after the first stage of the disease are certainly harmful. Use freely, also, a gargle of a strong decoction of red oak bark. At the same time, give two teaspoonfuls of saturated solution potass. chloral every hour. Do not give it in combination with other remedies, for he considers it simply of local use and not a blood remedy, and had never seen it of service in any but diseases of the mucous membrane and

glands of this membrane—as typhoid fever, stomatitis, &c. Though it had been his misfortune to meet with many cases of death from diphtheria, and some seemed to be fatal necessarily, still, he was satisfied that if the profession threw aside local applications in the incipiency of the disease, there would be a far greater mortality. As in all asthenic diseases, the supporting treatment must be correct. Nourishment every hour, and especially milk, with alcoholic stimulants used freely. Living in a turpentine region, it may be that our epidemics are milder than in other parts of the State, but certain it is that we do succeed in abating many cases which would eventuate in diphtheritic deposit if left to themselves.

Dr. Potter had had considerable experience in the disease, and noticed that it occurred near mill ponds and stagnant pools. He believed that it was a filth disease. He had known several fatal cases circumscribed in the limits of the Smithville garrison, and during the same visitation all the cases in the town recovered. His treatment had been to use local applications of sulphurous acid, and internally, tincture of iron and quinine. There were some strong reasons to believe that the disease was contagious, and cited a case in point. Nutrition is a matter to be kept constantly in view.

Dr. Thomas J. Moore, of Charlotte, agreed that malaria is associated with and affected by diphtheria, and thought that quinine should be largely used, but it is not confined to malarial regions. Local applications are hard to make in young patients; some saccharine element ought to be used as a vehicle for medicinal substances; steam applications he regarded as indispensable. He reported cases in his practice conclusively showing its communicability.

Dr. Bahnson believed that quick-lime continuously sprinkled on the floor destroys the virus of the sputa, and prevents other cases from being so malignant. Saturating the sick room with steam from quick-lime also, he thought was serviceable. Tracheotomy in laryngeal complications ought always to be performed, even if a small per cent. only is saved by it. Dr. B., in a case of tracheotomy, sucked hastily, without thought, a mucous plug from a tracheotomy tube in the larynx, and was affected by diphtheritic virus; he was satisfied that the disease is communicable.

Dr. Joseph Graham, of Charlotte, thinks that the disease is infectious, propagated through the atmosphere and by contact. He has not been satisfied with any book treatises; many cases would get well without treatment, while some will die with the best treatment. He related a case in which

he believed buttermilk cured the patient. He maintained that if a patient vomits without nausea he will die in less than five days; the extent of patches bear no steady relation to the malignancy of the disease. He had been affected in the same manner as was Dr. Bahnson.

Dr. O'Hagan did not agree with Dr. Graham as to the inefficacy of treatment. He thought mild local applications of prime importance, and that tracheotomy is useful, but, to be successful, must be performed at an early period before the bronchi are invaded.

Dr. Wood dwelt particularly on the use of chloral hydrate applied by steam atomization—it proving a valuable agent in his hands. A patient would submit to this rather than to gargles; enough chloral was usually inhaled to produce a calming effect, putting many intractable patients in such a condition that they would take nourishment passively, at least.

Dr. Norcom said that no treatment could be relied on unless it was stimulants or nourishment. Medicine was generally a secondary consideration, although he did not neglect to use various vaunted remedies.

Dr. C. T. Murphy thought food and stimulants the main bulwarks in the treatment. The doctor had used the stomach pump, putting food directly in the stomach, and kept the patient alive for thirty days.

Dr. Hines held that tracheotomy was out of place. He thought it bad surgery, not justifiable, and will not cure the disease, as he regarded it constitutional, and the throat symptoms only a local manifestation.

Dr. Bahnson insists on the operation to prevent asphyxia.

Drs. Summerell and Moore also believe in the operation of tracheotomy when resorted to in time.

Spondylitis and its Treatment is the subject for discussion next year, and Dr. M. Whitehead was appointed the essayist.

Greensborough was fixed upon as the place of meeting on the third Tuesday in May, 1879.

During the afternoon, Dr. Richard H. Lewis, of Raleigh, read a paper on some cases embraced in his specialty—ophthalmology. Case I—*Capsulo-lenticular Cataract.* Case II—*Corneitis.* Case III—*Amblyopia.* Referred to the Committee on Publication.

Dr. Bahnson gave a verbal account of his plan of treating epiphora with a stylet of his own construction.

The report of the Secretary and Treasurer of the State Board of Health was read.

At 8½ o'clock the Society assembled at the Presbyterian

Church to hear the address by the orator for the year—Dr. W. T. Ennett, of Pender county. His subject was, "Harvey as the True Discoverer of the Circulation of the Blood." His address was well received by an appreciative audience of citizens as well as of the profession.

Dr. O'Hagan attended the meeting of the Virginia Medical Society in Petersburg. Their method of proceeding was superior in many respects, and might be copied by us with advantage. All work was subordinate to scientific professional work.

A letter was received from Dr. Duncan N. Patterson, of Richmond county, deeply regretting his inability to attend this meeting. Dr. Patterson enclosed the Constitution and By-Laws of the Pee Dee Medical Association, which were approved.

Dr. O'Hagan wished to call the attention of the Society to the publication of our Transactions for the coming year. Since our last meeting, two of our members—Drs. M. J. DeRossett and Thomas F. Wood—have commenced the publication of the *North Carolina Medical Journal*, with a courage which promised success.

Dr. Hines agreed with Dr. O'Hagan, and he thought the Society ought to give every encouragement to its own State Medical Journal. This Journal has already shown sufficient ability to predict for it a useful future. Every doctor in North Carolina should take the Journal and interest his friends in it. He then offered the following resolution:

Resolved, That the Medical Society of North Carolina takes pleasure in recommending the *North Carolina Medical Journal* to the profession of the State, and that the proceedings of this meeting be published in its columns. Carried.

The following report of the Committee on Nominations was adopted: President, Dr. Charles Duffy, Jr., Newbern; Vice-Presidents, Drs. J. A. Gibson, Concord, Willis Alston, Littleton, James McKee, Raleigh, A. A. Hill, Lexington; Treasurer, Dr. A. G. Carr, Durham; Secretary, Dr. L. J. Picöt, Littleton; Orator, Dr. W. W. Lane, Wilmington.

Drs. A. Holmes, of Clinton, and Robert I. Hicks read papers on Puerperal Eclampsia.

The following gentlemen were appointed chairmen of the Sections; Surgery and Anatomy—Dr. Charles J. O'Hagan; Obstetrics and Gynæcology—Dr. H. Otis Hyatt; Practice of Medicine—Dr. W. A. B. Norcom; Materia Medica and Therapeutics—Dr. G. G. Smith; Microscopy and Pathology—Dr. G. G. Thomas.

Dr. R. L. Payne, President, delivered his valedictory on

retiring from the chair, "*Influences which Affect the Child Before Birth*," which will be further noticed when the Transactions are published.

Dr. McDuffie reported a case of dislocation of the hip-joint downwards into the obturator foramen. The patient was a little girl, who walked about for several days after the accident, the parents thinking it was a stone-bruise on the heel. Reduction was effected by manipulation. The case was one of interest, from the fact that the hip dislocated spontaneously three times after its reduction.

The following members have died during the year: Drs. W. R. Sharpe, of Fulton; G. H. Macon, Littleton; C. G. Cox, Richlands; F. S. Alexander, Randalsburg, and O. P. Huston, Mount Olive.

The election for the Board of Medical Examiners for next six years resulted in the choice of the following gentlemen: Drs. Thomas F. Wood, Examiner in Chemistry; H. T. Bahnson, Secretary and Examiner in Physiology; T. D. Haigh, Examiner in Obstetrics; George L. Kirby, Examiner in Anatomy; Peter E. Hines, Prest. and Examiner in Practice of Medicine; Joseph Graham, Examiner in Surgery; R. I. Hicks, Materia Medica and Therapeutics.

Dr. Duffy made some remarks on the "Management of the Perineum," and reported a case of poisoning by gelsemium.

Dr. C. Tate Murphy spoke at length on the value of gelsemium sempervirens tincture, in treating malarial fever. He lived in a malarial district, and through a series of years he had carefully noted the effects of gelsemium. He found that relapses were less frequent after the use of this remedy than after the use of the cinchona alkaloids.

Book Notices, &c.

[We regret that the pressure upon our columns restricts us to the most summary notices of the books upon our table this month.]

Handbook of Ophthalmology. By PROF. C. SCHWEIGGER, of the University of Berlin. Translated from the Third German Edition, by PORTER FARLEY, M. D., Rochester, N. Y. With Diagrams and other Illustrations. Philadelphia: J. B. Lippincott & Co. 1878. 8vo. Pp. 555. Cloth. Price, $4.50. (For sale by Messrs. West, Johnston & Co., Richmond.)

The fact that this work has passed through three recent editions in German attests the estimate placed upon it in the author's country. It will unquestionably soon become stand-

ard among the specialists of this country as well—now that it is easily accessible to all. For the general practitioner, it is also an excellent book. The author is remarkably accurate in his descriptions. Not only does he make practical original suggestions in regard to diagnosis and treatment, but he likewise shows familiarity with the writings of others, to whom he accords credit—a little item being now-a-days too much overlooked by some writers who wish to make the impression that they are entitled to all the glory. The work, in short, seems to be well up to the times, and is heartily commended. The translation has been admirably done, and the book has been nicely issued by the publishers.

Handbook of the Practice of Medicine. By M. CHARTERIS, M. D., Professor of Practice of Medicine, Anderson College, Glasgow; Physician and Lecturer in Clinical Medicine, Glasgow Royal Infirmary. With Illustrations. Philadelphia: Lindsay & Blakiston, 1878. 12mo. Pp. 336. Cloth. Price $2. (From Publishers.)

This is the first of the volumes now ready of the "Students' Guide Series." The aim of the author has been to render the work "handy" and practical—to present ascertained facts rather than to discuss points still in dispute. The work is useful to the student who is reviewing his studies for an examination, but is not complete enough for the practitioner. Besides, a work of this size, and having such an object in view as this, must necessarily omit reference even to many diseases with which practitioners come in contact. The few illustrations introduced are original and are excellent. The first of the plate illustrations shows the typhoid ulceration of the ileum; the second represents tænia echinococcus from hydatid cyst of the liver; the next two show the urinary salts and casts. A number of diagramatic drawings are introduced, which will greatly aid the student in getting a correct idea of the form, etc., of the conditions described. An Appendix contains some 16 or 18 pages of useful formulæ for prescriptions, etc. A complete index to the book is added.

Practical Gynæcology—A Handbook of Diseases of Women. By HEYWOOD SMITH, M. A., M. D., Oxon, Member R. C. P.; Physician to Hospital for Women and to British Lying-in Hospital. With Illustrations. Philadelphia: Lindsay & Blakiston. 1878. 12mo. Pp. 205. Cloth. Price $2. (From Publishers.)

This is the second volume of the "Students' Guide Series." It is chiefly synoptical in its arrangement, giving at a glance

the salient points of diagnosis and treatment, without discussions on vexed questions of pathology. The author is the son of the renowned Dr. Protheroe Smith, who founded the first hospital for women. He has written chiefly the results of his experience at the Hospital for Women; but he also acknowledges aid derived from Dr. Thomas' work. The work before us is the best handbook that we have ever seen, and is scarcely less useful to the practitioner than to the student for whom it was specially designed. An Appendix of remedies and a complete index are added to the book.

Editorial.

The Hospital Gazette and Archives of Clinical Surgery, of May 30th, 1878, in regard to the article by Dr. C. G. Polk on "Infantile Innutrition" in our May number, 1878, says:

"We are naturally led to speculate upon the amount which was paid for the insertion of the advertisement in the reading columns of the journal. We cannot suppose that the editor inserted it without ample pecuniary consideration, as he must know that the admission of such advertisements will soon exclude all communications from respectable and intelligent contributors."

In regard to a somewhat similar remark in the *Archives* last fall, we had occasion to say in our December number, 1877: "So much of the above sentence as in any way impugns the motives of the *Virginia Medical Monthly*, is an unprovoked and unmitigated slander and an infamous falsehood." We repeat this remark under the renewed provocation. We do not understand the pertinacious impertinence of the *Archives* in intermeddling with affairs of the *Monthly*. It even threatens to "speak more plainly" if we publish anything further from Dr. Polk. As the *Monthly* is an independent organ of the Regular Profession, and hopes by its publications to be of service to practitioners, it will always most cheerfully publish good, practical, useful articles from whatever source they emanate. But this editorial in the *Archives*, like the former one which we had to characterize as slanderous and false, is so contemptible, and shows that the editors are so unacquainted with the principles of honor or the ordinary courtesies of gentlemen, that we promise our readers to have nothing further to say about them. They have placed themselves beyond the pale of our respectful recognition in the future.

Correction.—In our report of the proceedings of the last session of the South Carolina Medical Association, compiled from *Spright's Daily Newspaper*, of Greensville, S. C., it was stated that the *resolutions* recognizing the valuable services rendered to humanity by Drs. Manning Simons and T. Grange Simons in the yellow-fever epidemic at Port Royal and Fernandina, were carried after *considerable debate*. As this statement has been interpreted by some as conveying the idea that there was a difference of opinion among the members of the Association in regard to the meritorious services rendered by these gentlemen, we take great pleasure in stating that their admirable conduct was unanimously approved, and that the only difference of opinion expressed was in regard to the publication of the resolutions in the secular journals.

The Brain is a new quarterly journal of Neurology begun April, 1878, edited in London by Drs. J. C. Bucknill, J. Chrichton Browne, D. Ferrier and J. Hughlings Jackson. It is published by Messrs. Macmillan & Co., to whose house in New York city subscriptions should be sent. Annual price, $4; single number, $1.25. It is almost needless to add that with such editors the journal is excellent in all respects. It is very practical and useful to the general practitioner. The April number contains 142 pages.

The Metric System of Weights and Measures has been adopted by the United States Marine Hospital Service. Physicians in that service are hereafter to use this system in making orders and in writing prescriptions. It will not be long before the system, because of its general superiority and international uniformity, will be generally adopted. Our colleges should at once instruct students as to the details of the system. Credit is principally due Drs. Sequin, of New York, Wigglesworth, of Boston, and Woodworth, of Washington, for popularizing the plan in this country.

The State Medical Society of Arkansas, at its recent session ordered that no member of the Hot Springs and Garland County Medical Society be allowed to register, and that no delegate therefrom be admitted at this meeting. The disgraceful mode of advertising by some of these doctors of Hot Springs, having "drummers" on trains arriving in the city, and sending placards all over the country, even caused the Mayor of the city to issue a proclamation, cautioning visitors to beware of such scamps.

The United States Marine Hospital Service, under the charge of the Supervising Surgeon-General, Dr. John M. Woodworth, of Washington, is becoming a most important department of the Government. The efficient officer in charge is making his Service a truly practical aid to all State and municipal health boards that co-operate with him, as well as to the port health authorities.

Vermont State Medical Society.—The semi-annual meeting will be held at the Brooks House, Brattleboro, June 12th and 13th, 1878—Dr. C. M. Chandler, President; Dr. S. S. Clark, Secretary.

Protracted illness of the Editor, from which he is now convalescing, has somewhat delayed this issue.

Dr. William H. Taylor, has removed his laboratory to 606 East Grace street.

Obituary Record.

Dr. Robert Lewis Madison.—We were pained to see in a recent secular paper the statement that this distinguished physician had recently died at Lexington, Va. He will be remembered as the efficient surgeon to the Virginia Military Institute, which position he held for many years, until declining health compelled him to resign last year. He was a member of the Medical Society of Virginia, and wherever known, was highly esteemed as a physician and gentleman.

Dr. R. D. Winsett, of Somerville, Tenn., recently of Nashville, died April 25th, 1878. The *Nashville Journal of Medicine and Surgery* truly says: "The profession of Tennessee sustains a severe loss, and he will be mourned by many who knew him as a skilful, learned and conscientious physician.' A great deal of the success of the *Monthly* in Tennessee was due to his constant favors.

Prof. Joseph Henry, the well known Secretary of the Smithsonian Institute, Washington, D. C., died during the last week in May at an advanced age.

Dr. Montefiore J. Moses died at his home in New York city April 11th, 1878. He was in his 37th year.

VIRGINIA
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Original Communications.

ART. I.—**Fibro-Myoma of the Uterus.** By R. C. M. PAGE, M. D., Member Pathological and New York County Medical Societies, New York.

Certain non-malignant growths, affecting chiefly the body and fundus of the uterus, have, at different times, received various names from writers on gynæcological subjects. Dr. William Hunter,* towards the close of the eighteenth century, appears to have been the first to appreciate their true nature, and he described them under the name of "fleshy tubercle." Baillie called them "hard tubercles;" Broca, "hysteromata;" Hooper, "subcartilaginous;" Müller, "desmoid;" Rokitansky, "fibroid;"† others have called them "fibrous tumors" and polypi. Virchow designates them as "myomata," and by Billroth they are described under the name of "fibromata."

In order to give these growths their scientifically correct designation, the latter should be based chiefly upon the histological elements of the former. In other words, the name of the tumor should be scientifically expressive of its composition. This being true, many names that are not only vague in their meaning, but even calculated to mislead, may very properly be dropped, owing to the present advanced stage of pathological anatomy.

It is an accepted fact that these growths originate as a lo-

*Thomas, *Diseases of Women*, 4th ed., p. 500.
†Virchow, *Die Krankhaften Geschwulste*, p. 107, *et seq.*

calized and well-defined hyperplasia of the uterine parenchyma.* The latter, as regards the body and fundus of the uterus, may briefly be said to consist of (1) Bundles of unstriped muscular fibres; (2) Vessels, nerves and lymphatics; and (3) Fibrous-connective tissue cement.†

Under such conditions, a tumor in the early stage of its development, is generally of roundish form, small in size, of a pale, reddish or whitish color, and partakes for the most part of the elements of the uterine walls, from which it had its origin. Accordingly, if we now examine one histologically, it will be found to consist principally of *smooth muscular fibres*, which are larger than those of the normal uterine structure, and have broader cells and nuclei.‡ This condition induced Virchow to call them "myomata."§ Indeed, to such a degree does the muscular element sometimes exist, that the term "myoma" is very nearly histologically correct, although, according to Klebs, such a tumor is exceedingly rare, and then it is due to complete disappearance of fibrous-connective tissue which originally existed.

The muscular fibres are arranged in bundles, and the bundles are grouped together in various ways around a central, large *capillary blood-vessel*, the walls of which consist of a thin layer of *fibrous-connective tissue*, lined by a single layer of endothelial cells, having large nuclei. These groups of muscular bundles in like manner, though rarely, are arranged around a larger blood-vessel, having thicker walls, which are composed of several layers of fibrous-connective tissue. This latter tissue, which enters into the formation of the walls of the vessels, will be found, upon careful examination, to be continuous with that which exists between the muscular bundles themselves, as well as between the various groups which they form. Between the muscular bundles themselves, and between them and the walls of the blood-vessels, are found *lacunæ* containing white blood-corpuscles, with occasional nuclei. In this manner, according to Klebs,‖ originates a

*Klebs, *Handbuch der Pathologischen Anatomie*, p. 883, and Birch Hirschfeld, *Path. Anat.*, p. 1146; Thomas, *op. cit.*, p. 499.

†Quain's *Elements of Anatomy*, 8th ed., 1876, p. 464, *et seq.*

‡Klebs, *op. cit.*

§Virchow, *op. cit.* ‖*Op. cit.*

cavernous structure which does not exist in the normal tissue of the uterus, and which we will have occasion to mention hereafter in connection with the formation of the cystic variety of this tumor.

According to Cruveilheir,* no nerves enter into the formation of these tumors, and hence their absolute insensibility; but, according to Billroth, the nerves not rarely perish.†

Such then, in its origin and early development, is the histological structure of the typical non-malignant growth which we have in view, and the term *fibro-myoma*‡ or myofibroma (Thomas), gives an idea of its true histological composition as nearly perhaps as any one convenient expression can be found to do. It is true that "fibroma" and "myoma" are correct names when applied to certain *varieties* of the *fibro-myoma* as will be seen hereafter, but are inadmissible when applied to the original tumor before certain changes have occurred in its structure.

Fibro-myomata may be *classified* according to their position in relation to the walls of the uterus. Accordingly, they are called *sub-peritoneal*, *sub-serous*, *extra-mural* or *extra-uterine* when they exist on its outer surface; when found in the substance of the uterine parenchyma, *parietal*, *interstitial* or *intra-mural;* and *sub-mucous* or *intra-uterine* when found in the cavity of the uterus. The latter class, when pedunculated, are called *polypi*, whether there be a fibro-myoma or any of its varieties, to be described hereafter.

In regard to the *frequency* of this affection, perhaps there is no organic change to which the uterus is so susceptible as the development of this growth.§ According to Klob, 40 per cent. of women who die after the fiftieth year have "fibroid" tumors of the uterus. Bayle states that all women dying after 35 have "fibroid" tumors of the uterus, and according to McClintock,‖ it is the most frequent organic disease of the uterus, if we except inflammation and its effects.

The *age* at which fibro-myomata originate, is chiefly dur-

*Barnes, *Diseases of Women*, p. 656.
†Billroth, *Path. Anat.*, p. 697, *et seq.*
‡Perles, *Allgemeinen Path.*, p. 423, *et seq.*; Birch Hirschfeld, *op. cit.*
§Thomas, *op. cit.*, p. 507; Barnes, *op. cit.*, p. 640, &c.
‖McClintock, *Diseases of Women*, p. 177.

ing the period of sexual activity,* and generally from 30 to 45†. Scanzoni considers that the affection is most common between 35 and 45; and Dr. West found that of 87 cases, 21 had "fibrous" tumor of the uterus between the ages of 20 and 30.

It occurs more frequently in married women than single, and more frequently in those who have borne children than the sterile. Out of 555 cases mentioned by Winckel,‡ there were affected 51.5 of those that were married and had borne children; 24.3 married and sterile; and 24.2 single. Of 140 cases mentioned in the Woman's Hospital Report,§ 44 cases were single, and 96 married. Of the latter, 69 were fertile and 27 sterile.

From these statements, it will be seen that between puberty and the climacteric is the time of life for the origin and development of fibro-myomata, and that they occur much more frequently in the married than the single. They probably rarely, if ever, originate before puberty; it is not certain that they do not originate after the climacteric; but that they do undergo enlargement and other changes after this period is quite certain.

I am convinced that Thomas is correct in saying that the *African race* is peculiarly liable to this affection.‖ Of all cases of negresses that have come under my observation for uterine disease (twelve in number) one had ordinary endometritis; one had cancer of the cervix, and the remaining ten had fibro-myoma or some of its varieties. It is not known exactly why this greater liability exists on the part of the African race; whether it be owing to the greater development of the muscular elements of the normal uterine parenchyma, or to greater sexual activity of the generative organs, or other cause, I am unprepared to say.

The *exciting causes* of fibro-myoma are those which may produce hyperplasia of the uterine parenchyma. Fibro-myomata may exist singly or in large numbers, and may vary in

*Barnes, *op. cit.*, p. 640.
†Thomas, *op. cit.*, p. 503.
‡Winckel, *Myomata*, p. 7.
§*Annual Report Woman's Hospital*, 1877, p. 67.
‖Thomas, *op. cit.*, p. 503.

size from a pin's head to almost any size which the pelvic and abdominal cavities are capable of containing. Kivisch mentions one that extended up to the ensiform cartilage. They may also be of every conceivable shape.

In regard to the *growth* of fibro-myomata and their *transformation* into their several varieties, it may be said their growth is slow, and their size is rarely increased by the fusion, so to speak, of several or many.* More frequently it happens that the original or some other cause operating within the tumor, induces a proliferation of its individual histological elements, thereby producing a tumor within a tumor. If this process occurs centrally and impartially, a round tumor results; if peripherally and in isolated portions, a nodulated tumor. And it is by the formation of these nodules that a tumor is *wedged out*, so to speak, to the outer or inner surface of the uterus. In this way, and by the traction caused by the weight of the tumor, occur the pedunculated forms of extra-uterine tumors. The fibro-myoma is subject to a variety of *transformations*. According to Virchow,† the diminution of the muscular elements takes place through a fatty metamorphosis which is often connected with fibrous induration. And as in bronchocele the follicles of the thyroid gland gradually disappear owing to an increasing development of the interstitial tissue, so do we have here a gradual diminution of the muscular elements. This theory accords in the main with that of Klebs, who says that further changes in the structure of these growths are produced by the preponderating development of one histological element over another, and also by degenerative processes. According to Virchow and Billroth,‡ this process may go so far that the muscular and nerve elements may entirely disappear, and nothing remain but a fibrous tumor or pure *fibroma*. In like manner a preponderating development of the muscular may lead to the total displacement of the fibrous-connective tissue element, and thus a fibro-myoma may become a pure *myoma*. This result, according to Klebs, is rare. A third process leads to the transformation of the fibro-myoma into the *cystic* variety of this tumor.

*Klebs, *op. cit.* †*Op. cit.* ‡*Op. cit.*

In regard to the formation of cysts, authors describe various ways in which they are brought about. According to some,* the cavities are not cysts in the true sense of the word, but are formed by the softening of the parts of the tumor by destructive processes, such as hæmorrhage into the substance of the tumor leading to "apoplectic cysts," formation of abscesses, &c. Besides these, according to Klebs and Billroth,† the lymph spaces become expanded into smooth walled cysts, filled with a clear fluid and destitute of a special membrane. All agree that the *cystic* fibro-myoma may attain an enormous size, and even simulate ovarian dropsy, for which it has been mistaken.

When associated with myxomatous and sarcomatous new formations, the cysts usually contain a dark-brownish red fluid, due to changed blood.‡

A fourth variety of fibro-myoma is what is called by Virchow the *teleangiectatic* form, or *cavernous myoma*, which, according to Klebs, resembles the erectile tissue of the corpora cavernosa. In this form, the muscular elements, possessing contractility, preponderate over the fibrous, while the superficial blood-vessels become passively dilated in part, and those within the substance of the tumor undergo ectatic development. The cavernous spaces within the nodules, are called by Klebs, "ectatic capillaries." These conditions are sufficient to account for the sudden changes in volume to which these tumors are said to be liable.

A fifth variety is the *calcareous* fibro-myoma. This is effected by degenerative processes. According to Virchow,‖ the calcification follows the direction of the fibrous bundles. At first, microscopic granules of calcareous salts are deposited, which become larger and more numerous, and then coalesce to form elongated or roundish concrements. These unite to form larger masses. Their number and extent grow with the age of the tumor, and the whole may appear to be made of hard, ivory-like pieces. Only in rare cases, however, occurs undoubtedly a totally osseous structure. The pedunculated class of sub-peritoneal fibro-myomata are found mostly

*Hewitt, *Diseases of Women*, p. 556.
†*Op. cit.* ‡Klebs, *op. cit.* ‖*Op. cit.*, p. 114.

in cases of bad nutritive condition, and are frequently the seat of extensive calcifications.* Other varieties as the *myxomatous* and *sarcomatous* occur. These tissues commence usually from the vicinity of the vessels, and generally embrace only isolated portions of the tumor. These portions, in the case of myxomatous transformation, become of a *gelatinous* consistency; while in the sarcomatous variety, they are transformed into whitish-grey fibrous tissue, which in turn, rapidly proliferating, produces irregular enlargement of the tumor.

It is not proven that fibro-myomata ever become transformed into carcinoma. This could only occur in those cases where the tumor reached the surface of the mucous membrane, and even in these cases it rarely, if ever, occurs.† The invasion of the tumor by carcinoma occurs just as it does in the case of the normal uterine tissue.

These tumors may undergo *suppuration* and even *gangrene* and *necrosis*. The latter obtains especially in the class of pedunculated sub-peritoneal tumors in badly nourished cases, when the pedicle becomes twisted and the circulation of blood thereby impeded. Suppuration and gangrene occur more particularly in the case of superficially located *sub-mucous* tumors, from contact with the mucous membrane; but in puerperal processes, the more deeply seated ones may be affected. In the latter case, extensive abscesses may form; whilst peripheral suppuration may give rise to detachment of these tumors, which may subsequently be expelled, it more frequently is the cause of profuse hæmorrhage.

Fibro-myomata may also undergo considerable diminution in size, if not total absorption. Virchow‡ considers that their diminution can be traced without difficulty, and regards it as due to a kind of absorption of the muscular elements as seen in advanced age. He regards the entire absorption of the tumor as very rare, and does not consider it as proved ever to have occurred. Whether this takes place in the unimpregnated uterus or not, I am unable to say, but that it does occur during puerperal processes, I will illustrate by the fol-

*Klebs, *op. cit.*
†Klebs, *op. cit.*
‡*Op. cit.*

lowing case published* by me with the approval of Dr. T. A. Emmet.

"Mrs. P., æt. 26, a housekeeper by occupation, and married for seven years. She first menstruated at the age of fifteen. * * * She applied to me while House-Surgeon of the Woman's Hospital, for admittance to that institution on the 19th day of December, 1870. She was, at that time, examined by Dr. T. A. Emmet and myself, but had to be sent home, as there was no vacancy at the time. The anterior wall and fundus of the uterus were found to be very much thickened, and the organ extended up to the umbilicus. The uterine cavity measured *six and a half inches* in depth, and the os was patulous. She suffered no pain or other trouble, but was very anæmic, and she now had more or less flow of blood all the time. * * * Being requested by Dr. Emmet to visit this patient at her house, I did so, and by means of tincture of iodine applied to the *fundus uteri* occasionally, together with the use of the tampon, I checked the hæmorrhage, and in a few months succeeded in restoring the menstrual function to its normal condition. * * * She continued under my charge until the following June, when she appeared to be so well, I discharged her with the advice to notify me at once should hæmorrhage recur. The latter part of July she had her period as usual, but much to her surprise and uneasiness of mind, it did not return in August; in short, it soon became evident that she was pregnant. In the early part of May, 1872, she was delivered of a fine boy, without any difficulty. In July, 1872, I examined her with Dr. Jno. H. Ripley, and we found the uterine cavity measuring *two and a half inches in depth.* The abdomen, which at the examination of Dr. Emmet and myself, in December, 1870, was *flat* upon percussion as far up as the umbilicus was now *tympanitic*, and by bi-manual manipulation, the uterus could only be felt behind the symphysis pubis upon firm pressure, as in any case where the uterus is of normal size. *No tumor of the uterus now existed* therefore, for the organ appeared to be of normal size by every method of examination. The conclusion arrived at therefore, was, that the large tumor, which existed beyond a doubt before, had, during pregnancy, been absorbed by pressure of the fœtus, and had been *entirely removed* in the retrograde development of the uterus.

Dr. T. A. Emmet relates a similar case which came under his observation several years ago.

*New York *Med. Record*, February 1st, 1873, Vol. 8, No. 3, p. 56.

A lady patient of his was examined by himself and the late Prof. George T. Elliot, and was found to have a fibro-myoma of the posterior wall of the uterus, about the size of an orange. She subsequently became pregnant; Dr. Elliot, who was to have attended her in confinement, being out of the city, she sent for the late Prof. C. A. Budd. After her recovery from confinement, she was examined by Prof. Budd who, not being able to discover any tumor, would have doubted the existence of any had it not been for the high standing of the gentleman who preceded him. The truth is, the tumor had been absorbed during pregnancy.

The symptoms of uterine fibro-myomata are exceedingly various. Should the growth be of the submucous variety, hæmorrhage, more or less, will generally be a prominent symptom. According to the Woman's Hospital report,* hæmorrhage was a prominent symptom in 87 out of 140 cases. It is less so in the interstitial form, and least so in the extra-uterine class. Sometimes instead of hæmorrhage there may be a diminution of the menses, or even a total cessation for a short time. At all events, *menstruation is generally disturbed.* In some cases dysmenorrhœa occurs to a greater or less extent. Leucorrhœa, varying in quantity and character, is also a very common symptom. Pain to a variable degree is usually experienced in all varieties of cases, but very large tumors may give comparatively very little uneasiness.

Sterility sometimes exists. This may be due to mechanical obstruction, or the fixation of the fecundated ovum may be rendered difficult, or even impossible, owing to changes which may have occurred in the interior of the uterus. The *cavity is generally elongated, the mucous membrane smooth and atrophic*, and the secretions watery. According to the hospital report† referred to, of 96 married women affected with fibro-myomata, 27 were sterile; and according to Winckel,‡ of 555 cases, 24.3 were married and sterile, against 51.5 married and fertile.

Various mechanical disturbances are produced, differing according to the number, size, shape and position of the tumors.

Op. cit., p. 67. †*Op. cit.* ‡*Op. cit.*

A number of these tumors in the walls of the uterus may cause the cavity of the organ to assume the most varied distortions, by which retention of mucus, pus, and even the menses, may sometimes, though rarely, occur. Sometimes difficulty in micturition and defecation results, and there may also arise symptoms of cystitis, cellulitis, &c. If a tumor of large size be situated near the internal os, it may in parturition become a considerable, or even insurmountable, obstacle to the escape of the fœtus, as a case related to me by Dr. William H. Johnston, of Selma, Ala., will show. In a letter recently received from him, he says:

"I was called in consultation after the woman had been in labor about 30 hours. On examining the case, I diagnosed twins, as there was evidently a sulcus between two tumors, but I could only hear one fœtal heart. The condition of the woman was alarming. A feeble pulse of 140 to 150, and a cold, clammy sweat over her body. Her condition was such that we decided not to give her chloroform. Stimulants were, however, freely administered, and we determined to deliver her at once with the forceps. At the request of Dr. A. C. Graham, the attending physician, I applied them, but could not extract the fœtus. Having determined that the forceps would be of no avail, we both agreed upon Cæsarean section, but could not obtain the husband's consent. I then performed craniotomy and extracted the head, but it required us both to deliver the body, which we did by means of a towel slipped under the arms. It was very clear after delivery that there was a large tumor of the uterus extending up to the umbilicus. She died next day."

No *post mortem* is mentioned, but the diagnosis was complete.

Flexions, versions, inversions and prolapse of the uterus may be produced, varying in kind and degree as the tumor is large or small, and according to its shape and position.

By pressure on the nerves, they may give rise to pain or numbness, extending usually down one of the thighs, &c. They may be so large as to seriously interfere with the functions of the bladder and rectum; and by pressure on the pelvic veins, produce œdema of the extremities, as the following case will show:*

**Hospital Records* for 1870.

"Jenny Dyas, single, aged 37, born in Ireland, was admitted to the Woman's Hospital *November* 3d, 1870, with a tumor of the uterus extending up to the umbilicus. * * *. *November* 28th. Felt some pain in the calf of the left leg, which in a few days had perceptibly increased in size, and was hard and painful on pressure. *December* 4th. The whole left lower limb is very much enlarged and tense, and the skin has a white, shining appearance. Dr. T. M. Marcoe having been called in consultation, diagnosed thrombus of the left iliac vein, due to pressure caused by the tumor. At his suggestion, I wrapped the limb in cotton batting and oil silk. *December* 8th. She suddenly complained of pain and oppression in the chest, with great difficulty in breathing; face pale, lips blue, expression very anxious. Pulse irregular, and auscultation revealed a loud murmur at the apex of the heart, which organ beat tumultuously. *December* 12th. Patient appeared to have recovered somewhat from her recent alarming symptoms, when suddenly they re-appeared this morning, and she died.

Post mortem by Dr. Francis Delafield revealed a firm heart clot of several days standing in left ventricle. Right heart was nearly filled with a firm white clot closely attached to the cardiac walls. There was hæmorrhagic infarction of the spleen. The right ureter was dilated above the point of pressure; kidney walls thinned, and the infundibula dilated. *Left common iliac vein completely occluded with a thrombus*, near the point of bifurcation of the aorta. Large nodulated tumor of the uterus, extending up to the umbilicus."

Although fibro-myomata, unless of great size, rarely end fatally,* yet the *prognosis* cannot be considered favorable entirely in any case. The most favorable case may suddenly become complicated with alarming hæmorrhage; or else pelvic inflammation may result, leading to peritonitis or abscess, with symptoms of septicæmia or exhaustion. On the contrary, women with tumors of the uterus are constantly met with, who attend to the ordinary duties of life, with comparatively little inconvenience, to old age.

Diagnosis.—These tumors may be confounded with flexions and versions of the uterus; cellulitis with or without abscess; hæmatocele; pregnancy; sub-involution; ovarian tumors and cancer, &c. In order to make a correct diagnosis in these cases, of course a physical examination is to be

*Thomas *op. cit.*, p. 507.

had recourse to in connection with the previous history of the case.

In this way, by means of the uterine sound and bi-manual manipulations, flexions and versions may be disposed of.

In the case of cellulitis, the attack has come on rather suddenly, accompanied by more or less fever and constitutional disturbance. Digital examination will reveal the fact that the uterus is fixed, and the tumor, if any result, will be hard, immovable and very sensitive to the touch. Should abscess result, fluctuation and the previous history of cellulitis will generally be safe guides.

Hæmatocele is usually sudden in its occurrence, accompanied by violent symptoms. Its history is generally traceable to some well-defined event. The tumor will be found to be immovable and sensitive. The uterus will generally be found pushed forward against the symphysis pubis, but it can generally be distinguished as a separate body from the tumor.

Much care should be taken to distinguish between this affection and pregnancy. In the latter case, the uterus is symmetrical in shape, and generally lies in the median line. There is menorrhœa instead of hæmorrhage, and the pregnant uterus is generally softer than fibro-myoma. In doubtful cases, however, "time, with its development of fœtal movements will always settle the point."*

In like manner, in sub-involution, the uterus is enlarged symmetrically, and although the depth of the organ be increased, and there be disturbed menstruation, leucorrhœa, &c., yet the true condition can generally be determined by means of the sound and bi-manual manipulation.

From ovarian tumors, fibro-myomata may be distinguished by the facts that usually in ovarian tumors, the depth of the uterus, as measured by the sound, is usually normal; whereas in fibro-myomata the depth of the organ is almost invariably increased. The tumor and uterus can usually be distinguished as separate bodies. Ovarian tumor is not so often accompanied by hæmorrhage as fibro-myoma. To make a diagnosis between a large cystic fibro-myoma of the uterus and an

*Thomas, *op cit.*, p. 506.

ovarian tumor that has become firmly attached to the organ, is not only difficult, but sometimes impossible.

Cancer may be differentiated by the fact that it usually attacks the cervix. This is the rule. If, therefore, the os and cervix be free from disease, and the characteristic signs of cancer be absent, and if there be nodules on the body and fundus as determined by bi-manual manipulation, the case will not be one of cancer.

The treatment varies according to the locality, size, &c., of the tumor. In the extra-mural and interstitial classes, the treatment is simply directed to the palliation of the symptoms. If the uterus be displaced, and gives rise to pain or other inconveniences by pressure on the surrounding parts, a properly-adjusted pessary will frequently give relief. Care should be taken, however, to see that these instruments fit comfortably and not too tight; also, that there is absence of pelvic inflammation. Otherwise, the practitioner runs the risk of being summoned, with great inconvenience to himself, to remove a pessary that should never have been applied, and to find that he has on hand a case of pelvic cellulitis. When the tumor grows large enough to cause the uterus to rise above the superior strait and to rest on the brim of the pelvis, these pessaries may generally be omitted, and the patient may experience no more inconvenience than she would with the gravid uterus at a similar state of development.*

In case of hæmorrhage, ergot administerered subcutaneously or by the mouth in sufficient quantities, rest in the recumbent posture, together with the application of tincture of iodine to the fundus, will usually succeed. Or in like manner, equal parts of carbolic acid and glycerin, or the subsulphate or the perchloride of iron, in proportion of one part of the iron to ten parts of water, may be applied. Should hæmorrhage persist, a tampon should be applied. To prevent debility and exhaustion, iron and quinine should be given, and a generous diet ordered. If necessary, the cervix may be dilated by means of tents, and the cavity of the

**Intra-Uterine Fibroids*, Dr. J. Marion Sims, 1874, p. 5.

uterus be thoroughly injected or mopped out with some of the above preparations. Sometimes the vaginal injection of water as hot as can be borne will check the hæmorrhage for a time. In case of bleeding granulations within the uterus, the curette might be tried, but it should be used with great care.

The so-called "absorbents," if we may believe Scanzoni, who appears to have given them a fair trial, are utterly unreliable. The administration of ergot, according to Hildebrandt, promises much. He injected it subcutaneously in nine cases, and in seven of these, marked improvement resulted. His treatment was based on the theory that the ergot caused contraction of the uterus, resulting in compression, fatty degeneration and absorption of the tumor.

In the case of *intra-uterine tumors*, it may be sometimes practicable to remove them. Indeed, nature does this herself sometimes, before the patient comes into the hands of the surgeon. But even in this class of tumors there are many cases, and perhaps the majority, where operative measures are not called for and would not be justifiable.*

Before proceeding to remove an intra-uterine tumor, the cervix should be first gradually and thoroughly dilated. This I usually do by commencing with a small sea-tangle tent. The sea-tangle tents usually seen at the surgical instrument makers are worthless. They are very hard, cylindrical in shape, somewhat transparent, and possess very little power of absoption and expansion. According to the late Dr. Nott, the sea-tangle obtained from the Bay of Funday is the best. It comes in thin, flat pieces, and has a blackish appearance. They possess much power of absorption, and when placed in warm water, soon begin to swell. I have never seen them for sale by any dealer except G. Tiemann & Co. After using these for several days, gradually increasing their size, sponge tents may be used, continuing to increase thier size until the cervix is thoroughly dilated. With the patient under ether, a rapid examination, upon the removal of the tent, will disclose the fact whether or not the tumor can be operated on. If it be pedunculated, or if, in other

*Sims, *op. cit.*, p. 4.

words, it be a polypus, and not too large, it may readily be removed by Emmet's method of pulling it down with a vulsellum forceps by which the pedicle is put on the stretch and made smaller, as, in case of a piece of rubber when drawn out, it becomes smaller and more attenuated. Having done this, the attachment of the tumor may be severed by means of the knife or scissors, or if the attachment be to the fundus and difficult to reach, an Aveling's polyptome may be used. Instead of these, the écrasseur may be used if it be practicable to adjust it. By this latter procedure, hæmorrhage is not so liable to occur.

No time is to be lost in these operations, however, since the uterus, stimulated by contact with the instruments, &c., speedily contracts. After the operation, the uterine cavity should be thoroughly mopped out with cotton soaked in iodine, and a tampon well packed into the vagina, to prevent hæmorrhage.

Instead of excision or écrassement, *avulsion* may be performed. This is done by seizing the tumor with a strong pair of vulsellum forceps, drawing it forcibly down, and at the same time twisting and tearing it from its attachment. Should the tumor have already come down and filled the vagina, it may be drawn down by means of a pair of obstetrical forceps, and its attachment severed by means of the galvano-cautery, knife, &c., or it may be taken away in pieces until its attachment is reached, and then be treated as before.

If, on the other hand, upon removal of the tent, the tumor be found to have a very broad base, the operation may be deferred in the expectation that in time the uterus, stimulated by ergot, may cause the tumor to become pedunculated; or else *enucleation*, partial or complete, may be resorted to.

In the first place, one or more incisions of the capsule, with or without a partial removal of the tumor, may be made so as to facilitate pedunculation, and the case be deferred until that process is deemed sufficiently advanced for the operation of excision, &c.

In the second place, the surgeon, after incising the capsule sufficiently, may proceed to the total enucleation of the tumor, either by means of the finger, if possible, or Thomas' enucleator. The after treatment is to be the same.

Last of all, *gastrotomy* may be performed, should the symptoms be sufficiently urgent to demand it, and there be no other way of attempting to save the patient's life.

31 *West 33d Street.*

ART. II.—**The Pathological and Psychological Action of Opium, and its Effects upon the Human Race—Treatment by Electricity and Caffeine.** By ED. F. MANN, M. D., Sunny Side, Washington Heights, New York.

The early existence and use of the poppy is made known to us through the ancient mythologies of the Greeks and Romans. The Romans looked upon the plant as a gift from Ceres, the goddess of corn, and she is described as having a sceptre in one hand, and in the other the symbolic capsule. It was the ancient custom to paint Soranus as reposing upon a bed of snowy poppies. Catullus and Tibullus also speak of this plant, while Homer speaks of the poppy as among the familiar garden flowers. Diodorus says that the women of Thebes were acquainted with a herb which, from its properties, leads us to suspect that it was the poppy. Pliny also understood its virtues, and Livy speaks of it as being in the gardens of Tarquinius Superbus, which shows that it was known to the Romans at least five centuries before the Christian era. Hippocrates also was well acquainted with its virtues. The *nepenthes* of the Odyssey, and the ancient cordials, probably contained opium and also Indian hemp, which imparted the intoxicating and exhilarating inspirations to such beverages.

Opium was used medicinally by the Greek physicians centuries before the Christian era, and Dioscorides and others describe the mode in which it was obtained from the capsules of the plant. In 1228, we find the use of opium mentioned by the physician to Pope Nicholas IV. It was sent afterwards with camphor, etc., as a present to Royal personages; and in 1516, it had become an article of commerce. In a letter to the King of Portugal, it is described as in great demand among the rich and noble people in Egypt and Cambay, where the consumption was limited only by the price.

Its use as a luxury was communicated by the Arabs and Persians to the other Eastern nations, and the rapid recourse to some form of opium was contemporaneous with the spread of Islamism. From being known in China as a medicinal substance in the ninth century, it has lately become a means of sensual indulgence, and constitutes a distinct and lucrative department of trade.

About 3,000,000 Chinese smoke opium, and in the island of Singapore, 15,000 out of a population of 70,000 are similarly addicted. It is recorded that, calculating the consumption of 299 smokers in Singapore, each smoker consumed what was equivalent to 50 grains of crude opium per day. When used to excess, it is said that 116 grains have been consumed in this manner. One hundred pounds has been stated to be the monthly supply for the opium inebriates of the island. The opium traffic with China is so immense, that as far back as 1854 the Chinese paid the East India Company, for opium alone, a sum exceeding in valuation the total export of their teas and silks together.

The effect of opium is invariably, although in different degrees, agreeable, soothing, stimulating and elevating, culminating, as opium-smokers describe, in perfect bliss and complete oblivion. This state, however, is soon succeeded by languor, lassitude, loathing of food, aching of the limbs, gloom and indefinable wretchedness, and these sensations are only relieved by increased indulgence, which gradually results in a complete demoralization of the moral as well as the physical nature.

In China, the opium used for smoking purposes is prepared with the greatest care from the crude gum, thus obtaining an extract or "Tschaudú," which is about 54 per cent. of the original gum, and which yields more pronounced exhilarant and sedative properties, with a corresponding reduction of the narcotic element. In the region of the Bosphorus, there is used a confection of a lozenge form, and these lozenges are sold publicly. At Cairo, a conserve is sold, which, in addition to opium, contains hyoscyamus; while in India, the same confection contains Indian hemp or nux

vomica. In Turkey, the natives add to the gum opium ten per cent. of mercury to intensify the stimulation.

Morphine, the alkaloid extract of opium, contains the sedative property of opium, but the narcotic power is lessened, and it is, therefore, much used by ladies, especially in England. Laudanum is the spirituous solution of opium, and in China is limited to the higher classes; while with us it is used by the lower classes to whom druggists are in the habit of selling a diluted laudanum for the purposes of drink. McMunn's elixir, which is a denarcotized laudanum prepared with ether, is much used; as is also paregoric which is extensively taken by children of a larger growth than those for whom it was originally intended; while Winslow's soothing syrup which, when analyzed, gives, I believe, *one grain* of morphia to the ounce of the liquid—thereby giving, if the directions on the bottles are followed, a great deal more than can be safely given an infant—has succeeded in *soothing* many a little one into everlasting quiet.

In China, opium is universally smoked; while in Persia, the lozenges before alluded to are swallowed. In smoking the opium, the lungs are inflated as much as possible, and after retaining the smoke sometime—practice making perfect—the fumes are inhaled through the nostrils. In this way, a single whiff penetrates throughout the air-cells of the lungs, and in a few minutes, up to two hours, in old *habitués*, the coveted influence is obtained, and lasts from three to five hours as the case may be.

From the dens of the opium-shops in cities, where the lowest classes congregate, to the boudoirs of the rich, with the gilded opium pipe, the same intoxicating bliss is sought for, and the same curse of destruction of mental and physical health rewards alike the rich and the beggar. From the time when the indescribably entrancing repose following the use of opium occurs, may generally be dated the bondage to the drug, which eventuates in ruined health, prostrated business and blasted hopes.

The action of opium suspends and permanently enfeebles volition and conscience. Whether this is due to its agency upon cerebral structure—that is, whether it is imbibed

by the nervous tissues, and creates, by such imbibition, changes incompatible with pain, for instance, or whether by its action on the brain the will directs the attention of its influence to structural or moral suffering as the case may be—is a very difficult problem for psychologists. It would seem that the suspension and enfeeblement of the moral faculties produced by opium, while the intellectual faculties remain unimpaired, should depend rather upon a relation between opium and sensibility and consciousness, than upon the relation which it has to cerebral substance. One very disagreeable symptom which opium-eaters suffer from, is a general hyperæsthesia; and the painful nervous susceptibility often becomes so acute that even a jar from a footstep becomes unendurable; while the neuralgic twinges that result from opium, shoot along the nerves until the unhappy sufferers—body and mind alike—are shattered from the prolonged torture. When a man has once yielded himself up to the mastery of this appetite, the soul becomes contaminated, the moral sense obliterated, and all the finer susceptibilities and nobler aspirations decline and fade away; and the aim in life becomes erratic and purposeless, and the habitué has the misery and curse of seeing his children inherit the physical expression of general enervation and the mental aspect of dullness and idiocy. These children, with their feeble, broken-down constitutions, inevitably fill, as they grow up, our prisons, almshouses and insane asylums. A great many infants who naturally inherit fairly good constitutions from their parents, are poisoned by that nemesis of the nursery, paregoric, and the early mortality of such children with the records of *post mortems*, reveal that this results in serous effusion of the brain, and in some cases even marked degeneration of brain substance itself.

Opium is much resorted to by literary men for the transient exaltation of the imaginative faculty; but the intellectual fire, which is regularly fed as it flags with stimulants and narcotics, will ere long die out, never to be relighted.

One of the saddest things connected with this habit, is the fact that voluntary renunciation of opium by one who has become addicted to its use is unknown to the profession.

Opium-eaters make many well-intentioned resolves toward reform, but they are invariably frustrated by a revival of the appetite, and a relapse follows.

It is a startling fact, but a true one, nevertheless, that one-fifth of the opium sold by retail druggists would cover all the prescriptions of physicians in this country. It is taken generally to stimulate, but not to disturb the mind: to soothe irritability; to induce placidity; pleasurable feelings; gentle and friendly relations; to restore the strength and activity enfeebled by previous indulgence, and to render the partaker himself capable of discharging his duties and occupations by imparting an artificial and temporary health, which at once deceives the victim and baffles the keenest scrutiny. A wan and withered man or woman will apply for treatment, with bent figure, slow step, tremulous hand, features pale and haggard, eyes sunken and lustreless, and the patient would appear to the ordinary observer as a man or woman tottering on the verge of life. Let such an one take his ordinary dose of a solution of morphine and observe the result. The transformation to a non-professional observer is something miraculous. The gait is firm and assured; the muscular system is restrung; the face has grown in roundness and fullness, and is flushed as in youth; the eye is clear, sparkling and restless, and the conversation of our patient is cheerful and fascinating. But in a short time his rejuvenescence will fade away into the former spectral appearance.

Opium is resorted to among the higher classes of our own country to blunt care, to dry the tears of grief, to calm the tremors of the terror-stricken, and lull clamorous consciences to the coveted rest. In addition to this, the wear and tear of our hurried life, and the nervous prostration so common among fashionable women are temporarily relieved by this habit. The sensations of the opium habitué are alleged to be those of exquisite enjoyment, and the brilliant fancies that for a time obtain, transcend all real and healthy impressions received in the sober and waking state.

But what is the price that is paid for this dearly bought indulgence? An opium-eater is also an opium sufferer. When he awakes to a consciousness of his real position, it is

pitiable in the extreme to know that this state can only be mitigated by new and perhaps increased indulgence. There is probably no more terrible suffering than the complete exhaustion, the prostration of mind and body, which these patients suffer. The control over the muscles is lost, and epilepsy, paralysis and an unsteady and ill-balanced gait are all frequent symptoms of this terrible disease. Such patients have a full consciousness of their position, but are powerless to emancipate themselves from the opium habit. Their miseries and anguish are extreme; but in spite of all effort, they find themselves forced back again into the habit. It is just such cases that need medical aid and systematic treatment. There are no cases of any disease which more require to be lifted out from the depths of their suffering, and are in greater necessity of careful nursing, consideration and attention.

The opium habit will yield to proper treatment, and can be thoroughly eradicated if the patient will put himself under the necessary control, and desires a cure himself; but even with the best of medical treatment, the *medicina temporis* alluded to by Cicero is an important element in the cure of the opium habit. By a slow reductionary course of treatment—the dose of opium being diminished gradually—thus avoiding much suffering and nervous prostration, and as a substitutional stimulant and sedative to the nervous system, the daily use of *electricity* in the writer's hands has proved, and is at the present time proving, in one of the most intractable cases, a sure and efficient means of stimulating the central nervous system and also invigorating it, so that the withdrawal of the opium is attended with very little suffering to the patient. Not only does the stimulating and tonic properties of electricity take the place to the nervous system of the opium, but it directly diminishes the appetite for it, in the same manner as it does of alcoholic inebriety, where our patients have repeatedly told us that they no longer felt the craving for the alcoholic stimulus.

The patient just referred to as a difficult case for treatment, has been in the habit of taking opium for *thirty-five years*, until *two* hundred grains were taken daily, together

with two hundred and forty grains of chloral. This patient was admitted on the verge of insanity, with defective memory, staggering gait, defective articulation, complete loss of muscular power and maniacal excitement. He had delusions of fear and persecution, and was suspicious of all about him, and the whole condition of the nervous system was pitiable in the extreme. After the first day, the chloral was entirely withdrawn, and nerve tonics, together with strong beef tea and milk, alternated at short intervals, were given. The stomach soon became quiet, and the systematic use of electricity was at once commenced. The induced Faradic current was applied to the central nervous system, applications being made to the brain, spinal cord and sympathetic nerve. To quiet the cerebral excitement, the constant or galvanic current was applied for three or four minutes to the bi-temporal region with the most gratifying results—the patient becoming quiet, and a distinctly sedative action was at once obtained. A very weak current only is admissible to the bi-temporal region—four cells of a freshly-charged battery being amply sufficient to induce the desired quieting effects. The citrate of caffeine in two-grain doses has also a decidedly counteractive influence to the effects induced by opium, and is a valuable adjunct to treatment.

In the case referred to, our patient is gradually being deprived of his opium by fractional doses, and is enthusiastic regarding his cure, and co-operates to the fullest extent with our endeavors, so that we can safely predicate a cure in time.

The paralysis which occasionally appears in connection with opium habit of long standing is probably the result of delicate molecular changes in the nerves and muscles, rendering them incapable of discharging their normal function.

Pregnancy at Eight Years.—The *Gazette Hebdomadaire* reports a case of extraordinary precocity in a girl eight years years of age. She was born fully developed, and had hair on the pubes, menstruated at four years of age, and was seduced and became pregnant at eight. The pregnancy resulted in a mole, containing a well-characterized embryo. The hopeful father had seen thirteen summers.—*N. O. Med. and Surg. Jour.*

ART. III.—**Recent Progress in Venereal Diseases.** By GEORGE H. ROHÉ, M. D., Lecturer on Diseases of the Skin, College of Physicians and Surgeons, etc., Baltimore, Md.

Kaolin or Clay Earth Paste and Bougies for Gonorrhœa.—(Godon, *Am. Journ. Syph. & Derm.*, Oct., 1874; Chiene, *Med. Times and Gazette*, June 24, 1876; Zeissl, *Allg. Weiner Med. Zeitung*, January 8, 1878). The use of clay earth in gonorrhœa was first suggested and practised by Hewson. Godon reports 35 cases of the disease in the acute stage treated by this method. He injects two and a half drachms of the earth mixture, retaining it in the urethra about a minute, repeating it every four hours. The average duration of the treatment was between five and six days.

The mixture is made by rubbing up the earth with sufficient water to make a paste which will pass easily through the nozzle of a urethral syringe.

Chiene reports a number of cases of gleet in which it had also been successfully used.

Zeissl improved the method of using the clay earth by having bougies made of the substance and using four or five per day, oiling them well before inserting. The manner of preparation is as follows: A sufficient quantity of kaolin is rubbed up with glycerin to make a stiff dough, which is rolled out into cylinders 3 mm. ($\frac{1}{8}$ inch) in diameter, and 7 cm. ($2\frac{1}{2}$ inches) long. After drying, these are wrapped up in oiled paper and kept for future use. Zeissl obtained cures in some cases in from two to three weeks; in others, the plan altogether failed.

The Treatment of Chancroid by Means of Iodoform has been highly recommended by Greenough (*Boston Med. and Surg. Journal*, Jan 11, 1877), Strokowski (*St. Petersb. Med Wochenschr.*, Nov. 10, 1877), and Berkeley Hill (*British Med. Journal*, Jan. 26, 1878). It is applied either in powder, or dissolved in ether, which destroys its unpleasant odor, and as it permits the deposition of a very thin film, is the most economical method of using the remedy. One part of iodoform dissolves in about eight parts of ether.

Dr. Hlavacs, of the Austrian army, has used with success

Boracic Acid in the Treatment of Chancroids (*Allg. Weiner Med. Zeitg.*, Nov. 5, 1878). Twenty-six out of thirty-one cases got well in an average of thirteen days without other treatment. In the remaining five cases, *nitrate of silver*, *sulphate of copper* or iodoform were also used. The sore is simply dusted with the powdered acid and covered with dry cotton or lint. The remedy is cheap, clean and effectual.

Giant-Cells in Syphiloma have recently been found by Baumgarten and others (*Centralbl. f. d. Med. Wochensch.*, May 17, 1877). The opinion at one time held, that giant-cells were pathognomonic of certain degenerations, is no longer tenable, as they have been found in a number of different conditions. The most recent view of the origin of giant-cells is that they are the result of the confluence of several smaller cells. They finally undergo a fatty degeneration.

Dr. Böttger, of Dessau, reports (*Memorabilien*, 24 March, 1878,) a case of **Syphilis Communicated by the Saliva. (?)** A child, aged 9, presented characteristic syphilitic symptoms, but the parents were both healthy. No nurse had been had, the child having been fed on cow's milk. A former female attendant was found to have been affected with syphilis. She had been in the habit of first chewing the child's food when feeding it. It is supposed the disease was transmitted in this way. [As neither saliva nor other normal secretions have been proved capable of transmitting syphilis, it is more likely that the servant had an ulcer in her mouth, the pus from which was the medium of infection.—*Rep.*]

Unusual Syphilitic Infection.—Dr. Hollingsworth Neill (*Phil. Med. Times*, Dec. 22, 1877) reports what he terms "a remarkable case of syphilitic inoculation" occurring in a man who had had intercourse with a kept mistress, and no other woman for two years. The initial and consecutive symptoms seem to have been well marked. The woman, on examination, admitted having had syphilis four years previously, but for the past three years had been perfectly healthy. A vaginal examination revealed a large cicatrix, the result of the initial lesion of four years ago. No ulcer, abrasion, or purulent discharge could be demonstrated, although she was repeatedly examined. The author concludes that the infection re-

sulted from the uterine or vaginal secretions which were apparently free from pus. [Although it is likely that infection is possible in this way, still a nearer road out of the difficulty would seem to be that which is known as "mediate infection"—that is, some individual having a primary sore or mucous patch upon his penis, may have had connection with the woman, who, owing to her syphilitic condition, escaped infection, but who retained the syphilitic pus in her vagina long enough to infect the next comer. It does not seem at all called for to trust the statements of women (or for that matter, men either) who live in concubinage, to such an unlimited extent as is done by Dr. Neill in the report of this case.—*Rep.*]

Drs. Maury and Dulles report (*American Jour. Med. Sci.*, Jan., 1878,) the histories of fifteen cases of **Syphilis Communicated by Tattooing.** A tramp by the name of Kelly, "a professional tattooer," had for six months been practising his art in Philadelphia, Reading, Jersey City and New York while suffering from syphilis manifested by mucous patches in the mouth and condylomata in the perineum. His method of proceeding was as follows: "A figure having been selected from a book of plates which he carried with him, he would rub up India ink with water, and pick the outlines in with a few needles set in a holder. Then putting the needles in his mouth and sucking out the residue of pigment, he would thrust them thus moistened into a bottle of powdered vermillion and insert what adhered. To renew the vermillion, the needles were repeatedly wetted in his mouth. In some cases, both pigments were moistened with saliva, and in others, he would spit upon the finished tattoo and rub it well with his hand or a dirty cloth he had." The authors of this intensely interesting contribution rightly concludes that the medium of contagion in these cases was not Kelly's saliva, but pus from the mucous patches in the mouth.

In conclusion, they offer these practical remarks: "Too great caution cannot be used, lest by any means the virus of inoculable lesions be transferred to innocent persons. The hands of the surgeon, his instruments, bandages, or other appliances, should be most scrupulously cleaned after use about

syphilitic patients. Dentists may especially take to heart this lesson, which is the more deeply impressed upon our minds, because at this time we are investigating a case where an unsuspecting woman was inoculated with syphilis of a most malignant type, while under a dentist's hands."

Zeissl reports five cases of syphilitic infection caused by bites. In two of the cases the bite was inflicted during sexual intercourse; in another, during a fight. A similar case is reported in the proceedings of the Baltimore Medical and Surgical Society by Dr. W. Brinton and the present writer. (*Md. Med. Journ.*, June, 1878.)

A Case of Syphilis of the Pons Varolii is reported by Prof. Rosenthal (*Allg. Weiner Med. Zeitung*, Dec. 25, 1877). A man, aged 46, had suffered since January, 1876, with severe headache, vertigo, and loss of sensation of the left cheek. Six months later, the patient was admitted to the Vienna General Hospital with left-sided ptosis, paralysis of the abducens, diplopia, convergent squint, and paralysis of the external and internal branches of the trigeminus, inclusive of conjunctiva, sclerotic and cornea. The anterior two-thirds of the left half of the tongue was devoid of sensation. The diagnosis was: New formation in the pons; and this was supported by the addition of right-sided hemiplegia in August. Although no history of syphilis could be made out, this was suspected, and the patient took twenty-four grains of potassium iodide daily for four weeks. By the end of September, 1876, the right-sided hemiplegia had disappeared; but had been followed by paralysis of the left side. The patient died February 18, 1877, with difficulty of swallowing and joint troubles.

The autopsy showed several collections of grayish, tolerably soft matter, and dry, cheesy masses in the pons—most of the basal nerves undergoing degeneration. The basal arteries normal, the liver small, and attached to the diaphragm by fibrous bands. The elements of syphiloma were present in the microscopical preparations.

Syphilis of the Eyelids (H. Zeissl, *Allg. Weiner Med. Zeitung*, August and September, 1877; C. S. Bull, *New York Med. Journ.*, March, 1878). Syphilitic affections of the eye-

lids have not heretofore received the attention they deserve. They are also rather uncommon. The two papers here noticed are clinical contributions from specialists well known in their respective departments. A summary of the literature of the subject is also given.

The syphilitic lesions of the lids are of three kinds, occuring in order of time, as (1) the initial lesion; (2) the exanthemata (erythema and papules); and (3) gummata. The diagnosis between the initial lesion and an ulcerated gumma is often difficult. Ulcerated gummata of the lids spread rapidly and are very destructive. The appropriate treatment, of course, depends upon the stage of the disease; thus mercury during the primary and secondary, and potassium iodide or the mixed treatments in the gummatous period.

The Pathology and Treatment of Syphilitic Rhinitis.—Dr. Schuster, of Aix (*Werteljahresschrift f. Dermatologie u. Syphilis*, IV, I, 1877), reports fifteen cases of syphilis of the nose treated by scraping out the ulcers with the dermal curette. [This instrument was described in the *Medical Monthly* for July, 1877, pages 244–245.] An occurrence that must never be overlooked in any case of syphilis, is the great danger of destruction of the nasal bones and cartilages, and consequent disfigurement of the face. The results of the treatment were in the majority of cases such as to demand for this method a position of the first importance. Constitutional treatment (mercury and iodide of potassium and thermal baths) was pursued coincidently in the cases. The scraping was repeated as often as seemed necessary, and often followed by cauterization with nitrate of silver. Considerable hæmorrhage resulted in some cases, which was controlled by ice water or tampon. Tamponing the nose with cotton saturated in carbolized oil is recommended after the operation. Microscopical investigation of the removed tissues in a number of cases throws some light on the hitherto little understood pathological histology of the affection.

The pathological processes found may be summed up as follows: (1) simple syphilitic infiltration of the unthickened mucous membrane; (2) simple syphilitic infiltration of hypertrophic mucous membrane—in one case secondary cyst for-

mation; (3) marked infiltration of the mucous membrane (primary stage of the syphiloma); (4) syphiloma of mucous membrane; (5) exfoliating necrosis of bone in consequence of suppurating processes; (6) rarifying osteitis (caries sicca), without involvement of mucous membrane; (7) plastic osteitis; (8) Cell-proliferation and fibrillation of the basis substance of cartilage (cartilaginous septum of nose), perhaps indicating chronic chondritis.

[There can be no doubt of the importance of this paper both for the pathology and therapeutics of syphilis of the nose. The reporter has treated two cases by this method with the most flattering success. In one of the cases the patient could not breathe through the nose at all, since the pendulous portion of the soft palate had become adherent to the posterior wall of the pharynx, forming a solid partition of cicatrical tissue between the posterior nasal cavity and the pharynx. The ulcerations in the nose, which had already produced a large perforation of the cartilaginous septum, were thoroughly scraped with the curette, and followed by iodine fumigations and alkaline douches. The cicatricial bridge from the palate to the posterior wall of the pharynx was then divided by means of a pair of scissors curved on the flat, restoring to the patient the use of the nose for breathing. Constitutional treatment having also been diligently pursued, and the patient's hygienic surroundings improved, the scraped patches soon healed, discharge ceased, and the patient recovered with only a moderate loss of smell, which was almost entirely perverted before and during the treatment. In the other case, there was a small tertian syphilitic ulcer reaching down to the alar cartilage on one side. After scraping it out thoroughly, the base was swabbed with strong carbolic acid (85 per cent). The mixed treatment was given internally. The ulcer was entirely healed in three weeks.]

Syphilitic Laryngitis.—Duret (*L'Année Med.*, 1877; *N. Y. Med. Journ.*, April, 1878,) suggests the following methods of treatment in the course of a review of M. Isambert's work on "Syphilitic Laryngitis." The general treatment should consist in protiodide of mercury in pills ($\frac{1}{4}$ to $\frac{1}{3}$ grain three times a day) or bichloride in solution. Should the af-

fection have passed the secondary stage, iodide of potassium may be employed; or in stubborn cases, the "mixed treatment." Tonics—iron, quinine, &c.—are usually called for. The patient should avoid the use of tobacco and alcoholic liquors. Complete rest of the organ is essential. Local treatment is important. In the early stages, where there is only congestion or superficial ulceration, it should consist of insufflations of powdered alum, tannin, nitrate of silver, or better still, spray of carbolic acid solution, or solutions of alum, acetic acid, sulphate of zinc, &c. When the laryngoscope shows ulceration, the local treatment should be more precise and energetic. Cauterization at the seat of the ulceration may be practised by means of a small sponge moistened with tincture of iodine, solution of nitrate of silver, or of sulphate of copper, 1 to 30; of alum, 2 to 30; of sulphate of zinc, 1 to 100. These substances are preferably to be dissolved in pure glycerin; the crayon of nitrate of silver or sulphate of copper may also be employed. Isambert has obtained excellent results in obstinate cases by the use of chromic acid (1 to 8 and 1 to 5), which modifies the pathological tissues advantageously. The surgeon may be called upon to perform tracheotomy on account of asphyxia from œdema of the glottis, gummy tumor, or vegetations obliterating the air-passages, abscess, inflammatory swelling, or obstruction by loosened portions of necrosed cartilage.

When asphyxia comes on gradually, Isambert recommends cauterization with chromic acid (1 to 3), thus crisping the swollen tissues, giving access to the air, and sometimes influencing the disease favorably at the same time. When the progress of the asphyxia is sudden, tracheotomy is to be performed at once, even when the patient is *in extremis*. M. Trélat reports seventy-six discoveries in one hundred cases of tracheotomy in œdema of the glottis from syphilitic disease.

Lennox Browne (*Louisville Med. News*, January 19, 1878,) also contributes a good practical article upon this subject, which may be consulted with advantage.

Syphilis of the Cerebral Arteries.—Lancereaux has an article on this subject (*Gazette des Hôpitaux*, No. 110, 1877). The microscopic examination of the syphilitic alterations of the

cerebral arteries, exhibits in the middle arterial coat small heaps of new-formed and spindle-shaped cells, which having partially undergone fatty degeneration, induce the same process in the contiguous vascular coats. This may result in ulceration, obstruction of the vessel, &c. These destructive processes are characterized by always being limited to a small portion of the vessel, as opposed to atheroma, which is more diffused. The latter process also occurs in patients advanced in age, while those changes which are characteristic of syphilis, are more apt to appear in younger individuals. The middle cerebral artery is the one most frequently affected.

Syphilis of Joints and Bursæ.—Keyes' (*Amer. Journ. Med. Sci.*, April, 1876) gives an abstract of the changes in the bursæ in consequence of syphilis. In the early stages of syphilis there may be merely temporary congestion, which may be accompanied by considerable swelling, exudation and pain. The course of tertiary syphilitic inflammation or infiltration of the bursæ is a chronic process, attracting little attention until ulceration of the integument, pain and difficulty of motion, occur. The bursæ about the knee are most frequently affected, especially in women of the lower classes. Here the cause is obvious. In eight out of twelve cases collected by Keyes, the bursæ about the knee-joint were the ones attacked. The average age of the patients was 35 years. The "mixed treatment" was rapidly effectual.

Voisin (**Syphilitic Joint-Affections,** Paris, 1875,) states that syphilitic affections of the joints occur in different stages of the disease. In the first stage there are simply dragging pains; in the second stage there are true inflammatory foci, generally multiple and in form of acute or subacute arthritis or hydrarthrosis. In the tertiary period, the joint-evils are essentially chronic and resemble white swellings. If treated early, all the varieties of these affections disappear rapidly under specific treatment.

Vaffier (**Syphilitic Rheumatism,** Paris, 1875,) states that in China and Japan, syphilitic rheumatism occurs in the secondary stage of nearly every case of syphilis. It can be readily distinguished from gonorrhœal and true arthritis, and yields rapidly to the "mixed treatment."

Syphilis of the Rectum.—(Duplay, *Progrès Médical*, No. 19, 1876; Marot, *Progrès Médical*, No. 37, 1877). Opinions do not yet seem to be settled as to whether syphilitic stricture of the rectum ever occurs, except as the result of primary lesion. Some recent observations, however, seem to demonstrate that a syphilitic infiltration of the rectal walls—analagous to the luetic infiltration of the liver, tunica albuginea and testicle—sometimes occurs. The reason why this syphiloma of the rectum occupies the lower part of the gut, is due to the frequent irritation to which it is due from habitual constipation, congestion during coitus (nearly all cases reported occurred in women), menstruation (contiguous irritation) and labor. Allowed to run on, the contraction increases, until finally a sound can barely be introduced. Above the stricture there is dilatation of the gut, ulceration and formation of fistulous tracks in various directions, terminating in the vagina or at the verge of the anus. According to Trélat, the syphilitic fistules are characterized by a dry, clean, cicatricial appearance, like the holes in the ears for earrings. The treatment is constitutional, with consistent dilatation by means of bougies. The latter may be covered with mercurial or iodine ointments.

Pigmentary Syphilide.—In a paper on "the so-called pigmentary syphilide," Dr. Geo. Henry Fox (*Amer. Journ. Med. Sci.*, April, 1878), reviews the opinions of Hardy, Pillon, Fournier and Drysdale, upon the subject, and gives his own views, formed after careful observation of cases in his practice. Dr. Fox formulates his conclusions so happily, that we can only hope other writers will take pity on the medical journalist who is compelled to make "abstracts," and go and do likewise. The following is a summary of the paper in the author's own words:

"1. The pigmentary syphilide, as described by Hardy and others, is not a direct manifestation of syphilitic disease.

"2. It is a non-specific vitiligo, which, though syphilitic in its origin, cannot be properly classed among syphilitic lesions.

"3. It is most frequently observed upon the neck, but may be well marked upon various other portions of the body.

"4. It is usually more apparent upon females, but is by no means peculiar to this sex. Nor is it always associated with a fair complexion.

"5. The whitish macules, which constitute the most important feature of the affection, are not merely white by contrast with a hyper-pigmented background, but in consequence of a loss of pigment.

"6. These macules occur upon the site of pre-existing syphilitic lesions, remains of which may sometimes be observed as dark central points.

"7. The hyper-pigmentation surrounding the macules is of secondary importance, although in the majority of cases it constitutes the most striking feature of the affection."

Hereditary Syphilis.—The immunity of certain mothers of children affected with hereditary syphilis, is discussed by Jas. Nevins Hyde (*Archives of Dermatology*, April, 1878). He discusses the modes in which syphilis may be communicated to the offspring. [A number of papers upon the same subject were abstracted or referred to in the last report: *see this Journal, October*, 1877.] The paper is a review of recent contributions on the subject, and is critically worked out. The conclusions arrived at are cautious, and are stated in the following propositions, of which the sixth is of decided novelty:

"1. That if the possibility of the occurrence of conception without maternal infection be admitted, it follows that direct infection of the wife by the husband may occur at any subsequent period of the gestation. Hence the date of appearance of maternal syphilis cannot be urged in support of the so-called 'syphilis by conception.'

"2. That, inasmuch as the blood of the husband is capable of transmitting the disease directly to his healthy wife, the non-contagious character of the lesions exhibited by the former, cannot be urged in favor of his innocuousness during the pregnancy of the latter.

"3. That many of the physiological and pathological phenomena of pregnancy render it highly improbable that syphilis of the mother should exist without external manifestations; there being further evidence of the fact that puerperal and scarlet fevers and erysipelas in the human female, as well as

spontaneous vaccinia and equinia, are contagious diseases, connected with and often originating in abnormal puerperal conditions.

"4. That the mode of development of the fertilized ovum demonstrates the phase of its physiological independence, of the maternal organism, the placenta discharging a respiratory function, and presenting an effectual barrier against intra-uterine infection.

"5. That there is evidence to show that not only trichinæ, but various other poisonous organisms are incapable of transmission through the abdominal parietes; and that the proofs of such transmission in the case of the exanthematous fevers, and variola in particular, cannot be considered as fully established.

"6. That the full weight of Colles' law is to be estimated in connection with the question whether the child, whose hereditary syphilis is derived from the mother exclusively, is capable of infecting a healthy father; and if no instance of this latter can be adduced, a higher law becomes defined, viz.: that the child whose hereditary syphilis is transmitted by one parent only, is incapable of infecting either.

"7. That if such immunity be established, it is probably due to the fact that the syphilis-bearing cell-element cannot readily be implanted upon the soil from which it sprang—a fact illustrated by the infecundity of consanguineous marriages, and the non-autoinoculability in general of the primary lesion of syphilis."

Hare-lip and Cleft-palate in Children Hereditarily Syphilitic. Dr. T. R. Brown (*Archives of Dermatology*, July, 1877,) reports six cases of hare-lip and cleft-palate in children the subjects of hereditary syphilis. Four of the cases occurred under his own observation, and are clearly reported. Although disinclined to invoke the aid of syphilis in explanation of affections or malformations of which we do not know the cause, Dr. Brown is "forced to the conclusion that in the six cases, well authenticated, in which syphilis and cleft-palate were associated, there was more than a simple concurrence."

Reports of similar cases, from such as have opportunities

for observation, would be of value in elucidating this question.

Late Manifestations of Hereditary Syphilis.—Klink (abstract in *Archives of Dermatology*, April, 1878.) reports a case in a male, aged 19, and Bulkley (*Ibid*), two cases in females, aged respectively 23 and 24 years. The lesions in two of the cases resembled lupus. Under specific treatment, the improvement was promptly manifested.

Osseous Lesions in Hereditary Syphilis.—In a clinical lecture, Parrot (*Gazette des Hôpitaux*, No. 111,) calls attention to certain lesions of the bones in syphilitic children, which have not heretofore been described. Along the shaft of the tibia, on its inner aspect, will be found a bone tumefaction or swelling in place of the usual depression; this swelling may be uniform, or there may be small scattered nodules. The lower part of the humerus is affected next in frequency. There are also, in some cases, small prominences upon the cranium, at the borders of the anterior fontanelle. When inspection fails to reveal them, they are easily discovered by running the finger over the scalp. About the upper portion of the femur are found, in some cases, fusiform swellings or nodosities, which have been proven to represent the process of consolidation after fractures which occurred at these points. These bone lesions are found, in some cases, where no affection of the skin or mucous membranes call attention to the general disease.

The Treatment of Syphilis.—In a review of the twenty-five years of the existence of the Vienna clinic for syphilis, Prof. Sigmund (*Vierteljahrs. f. Dermatol. u. Syphilis*, 1876–'77,) makes statements that are calculated to cause the English reader some surprise. Thus he says that 39 per cent. of the syphilitic patients were permanently cured without any specific treatment. The majority of these cases of "spontaneous" recovery occurred in women, who, according to Sigmund, are less liable to the severe consequences of syphilis than men. It may be mentioned that the diagnosis in any case is not entered on the records until the patient is discharged from the hospital. This avoids many sources of error in diagnosis. Specific treatment is only adopted in the primary stage of

syphilis in pregnant women. In all others the treatment is purely symptomatic, especial attention being paid to alimentation of hygiene; in other words, restorative medication.

The Therapeutical Use of Iodinised Milk.—Lazansky, assistant at the clinic of Prof. Pick, in Prague, has recently experimented with the view of determining the value of employing nurse's milk, impregnated with iodine, as a remedy in syphilis and other diseases in which iodine is indicated. A case is reported (*Viertelj. f. Dermatol. u. Syph. I.* 1878) in which the result was extremely satisfactory. A nursing woman, suffering from constitutional syphilis, whose five months old child was likewise syphilitic, was given half a gramme (7½ grains) of iodide of potassium twice a day. No medicine was given to the child. On the day this medication was begun, chemical examination of the milk and urine of the mother showed the presence of iodine in both these secretions. On the following day, the presence of iodine was also demonstrated in the urine of the child. On interrupting the administration of the medicine, the iodine disappeared from the secretions to reappear when its use was resumed. The child thrived remarkably well, and the manifestations of the disease disappeared rapidly in it as well as in the mother. The latter complained of no symptoms of gastric derangement, and she gained rapidly in flesh and strength. The mammæ remained large and full of milk, and no diminution of the lacteal secretion could be noticed. The quality of the milk also remained good. The author thinks, therefore, that the assertion so frequently made by obstetricians and others, that iodide of potassium is an antigalactagogue, is by no means proven. He also thinks, with Bouley, that there is a new combination entered into between the iodine and certain constituents of the milk, which renders the medicine more assimilable. He adds, that not only in syphilis, but in other diseases of children and of adults, where iodine is indicated, this method of administration may be of use. The milk of animals might be iodised by adding iodine preparations to their food, as had been successfully done by Lewald, Piogey and others.

Tayuya.—A number of papers have recently appeared in

several of the Italian medical journals, laudatory of the effects of tayuya, in syphilis and allied diseases. Tayuya is the root of *dermophylla pendulina*, a Brazilian plant of the order *cucurbitaceæ*. Its physiological action is said to be an increase of the saliva and gastric juice, increase of appetite, improved digestion and slight laxation in small doses; in large doses it produces vomiting, colic, diarrhœa, sweating and increased salivation. Some suppose that in tayuya we possess a mild, agreeable and efficacious agent, which shall substitute mercury, possessing all its advantages without any of its disadvantages.

It is a proprietary preparation, and two alcoholic tinctures are at present made—*tra madre* and *tra diluta*. The former is used in gramme doses hypodermically, and diluted with water as a local application in the form of compresses. The weaker tincture (one part *tra madre* to three parts *spiritus rectif.*), is given internally in doses of two to twenty drops, twice or thrice daily. [The value of this remedy in syphilis is questionable.—*Rep.*]

Subcutaneous Injection of Calomel in Syphilitic Iritis.—Saltini (*Annal. di Ottalmol*, V. 2 and 3, *Monthly Abstract*, December, 1876) contends that the subcutaneous injection of calomel in the neighborhood of the eye, has a beneficial action on the local affection, not accounted for by its effect upon the general symptoms. It is also useful in non-specific iritis. "The great advantage derived from injections in the temples in the cure of syphilitic iritis, should most probably be referred to a local action of calomel, whether solvent or revulsive, or to both actions combined."

Acute Bright's Disease Cured by Jaborandi.—Prof. J. M. DaCosta, in the *Hospital Gazette*, publishes a clinical lecture, in the course of which he records a case of acute nephritis cured by this drug. The fluid extract of jaborandi was used in drachm doses three times daily. This dose produced excessive diuresis and diaphoresis. At the expiration of five days all symptoms of the disease had disappeared. The woman was left in an extremely prostrated condition, to counteract which *dialyzed* iron was administered both internally and hypodermically.—*N. O. Med. & Surg. Jour.*

ART. IV.—**The Surgical Treatment of Some of the Diseases of the Female Urethra.** By WILLIAM A. BYRD, M. D., Quincy, Ill.

Most of the current works on surgery describe *vascular caruncle* of the female urethra, but tumors may occur in that region that are not characterized by "smallness, great irritability, and liability to hæmorrhage."

During the latter part of 1873, I was requested by a physician of this city to etherize a lady that he said was suffering from stricture of the urethra, as he intended to perform internal urethrotomy for her relief. The meatus urinarius was almost entirely closed, pouting and darker for two or three lines around than the rest of the mucous membrane. As soon as she was fully etherized, he made three or four shallow incisions, radiating outward, in the urethra, and passed a No. 12 English sound; the passage of the sound was to be continued from time to time to keep the urethra patulous.

I neither saw nor heard anything more of the patient until February 27, 1876, when her husband called to consult me about her case, telling me that it was almost impossible for his wife to urinate, as the urethra was closed by a tumor growing entirely around the meatus.

February 28th, 1876, accompanied by Drs. P. A. Heitz, of Hannibal, Missouri, and J. W. Niles and W. C. Pipino, of this city, I called on the patient and found the tumor about the size and shape of a dress coat button, encircling the meatus, which was contracted to the size of a No. 1 catheter. She stated that the difficulty in urinating first troubled her some four years before, and that the operation described above gave her complete relief for a time, but the trouble gradually returned, rendering dilatation of the narrowed urethra necessary about once every six weeks. Ordinarily the tumor was not painful, but became very painful when indulging in tumultuous sexual intercourse. It never bled except when incised or when forced open with a metallic sound. It was dark purple, hard and resistant.

One of the physicians with me advised the removal of the tumor with caustics; but I applied the écraseur. Upon applying force, the wire broke, but not until the tumor was partially detached. I finished the detachment with the curved scissors.

Examining the parts from which the tumor was removed, there seemed to be none of the neoplastic growth left; a No. 16 Gouley's conical sound was then passed, followed by a No.

20, after which I passed my index finger, well oiled, through the urethra into the bladder to find out if there was any more tumors in the canal of the urethra or on the walls of the bladder. Finding none, the wound was plugged with a piece of sponge dipped in Monsel's solution.

The tumor was circular in shape, three-fourths of an inch in diameter by one-fourth of an inch in depth, consisting of fibrous tissues.

The patient made an excellent recovery: the meatus looks natural, and permits the easy and painless introduction of a No. 16 sound. There has been no indications of a recurrence of the tumor.

There is a class of cases that I am sure most all physicians engaged in active practice must have often seen. The patient will have such a pain when urinating as sometimes to make her cry out. There will be an almost constant desire to urinate, but after the bladder is emptied, relief is not obtained; there is still a bearing down—a vesical tenesmus. The meatus is generally red and pouting, the passing of a sound causes great pain, as does also pressure upon the urethra with the finger in the vagina. Yet the inflammation is not usually so great as to cause bleeding from the passing of a sound. A few drops of blood may be seen at times from the rupturing of some small vessel when urinating, or just afterwards. This condition is generally preceded by a displacement of the womb, a severe vaginitis, a protracted and difficult labor, or dyspepsia with irritating urinary deposits.

Often after getting the original cause of the trouble cured, the urethral hyperæsthesia continues, and there is left an analagous condition to vaginismus, or, in some cases, to fissure of the anus; in fact there is an *urethrismus*. Having the above view of the pathology of the disease, I have treated it by forcible dilatation.

During the early part of the year 1876, I was treating a lady for metrorrhagia, the uterus being hyperplastic and retroverted. During the course of the disease she was troubled with a frequent desire to micturate. At first there was no pain accompanying the act, but after awhile she suffered greatly, the pain being almost continuous. There was also vesicocele. A prolongation of the bladder, about the size and shape of the thumb of a large glove, extended down into the vagina, pointing toward the vulva. Believing this to be a complication that would leave vesical irritation, even after

dilatation of the urethra, I tried to get the patient to allow me to pare the mucous membrane off the vaginal surface of the prolongation, and to tuck it back into the bladder, and retain it there by uniting the raw surfaces with metallic sutures, but she would not consent, though she was willing the urethra should be dilated.

February 26th, 1876, assisted by Dr. Joseph Robins, I dilated the urethra with the next to the smallest size of Molesworth's dilators, the patient being under the influence of ether. When the dilator was removed, the fore finger was readily passed through the urethra into the bladder, and its internal surface carefully examined.

I used Molesworth's dilator* in preference to large sized steel sounds at the suggestion of Dr. Robins. Although it worked admirably, I cannot forbear a caution about its use in such cases; the India rubber bag may be filled too full, causing paralysis of the sphincter vesicæ and incontinence of urine.

The urethral canal was so inflamed that I considered it best to apply pure nitric acid, very lightly, throughout its whole extent. This, I think, covered the surface of the canal with a light eschar that prevented the contact of the urine with the terminal irritated nerves.

The patient made a very satisfactory recovery, there having been no vesical irritation since, except on two or three occasions when she retained the urine for an unusual length of time—the irritation subsiding readily under the influence of diuretics and a plentiful ingestion of fluids.

During October, 1875, I was called to see Mrs. Susan H., who was aborting a four months' fœtus that had been dead for some time. This was her sixth birth and miscarriage. No children living. The os not being sufficiently open to permit the passage of the fœtus, and there being considerable hæmorrhage, I dilated with a Molesworth's dilator and delivered the fœtus and after-birth. I then learned she had suffered from dysuria for over a year, or since the birth of her last child, and had been unable to get relief except from opiates. The urethra did not appear inflamed, but the passage of a sound caused very great pain.

November 2d, 1875, with the patient under ether, I dilated the urethra with Gouley's conical steel sounds, commencing with No. 14, and increasing the size until No. 20 was passed,

*June 18, 1875, Dr. Molesworth being in our city taking orders for his dilators, I had him to modify his pump by adding an extra stop-cock and tube so that it is not necessary to unscrew the pump from the dilator every time more fluid is needed when dilating, as was necessary in the pumps of his instrument. I also had him put attachments for aspirating to it, which makes a very compact and perfect set of double instruments.

when I introduced my index finger and found nothing abnormal about the urethra or bladder. There was no splits in the mucous membrane, caused by the dilatation. In a week all pain in urinating ceased, and she writes from her home in southern Arkansas that it has not troubled her since.

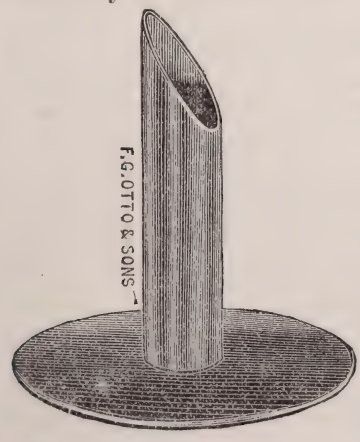
In the case where I dilated with Molesworth's dilator, there was a rupture of the mucous membrane of the urethra on the superior side, with smooth edges, much resembling a cut that would be made in performing lithotomy on the female, but not so deep.

Prof. Simon, of Heidelberg, in an article in the *New York Medical Journal* for October, 1875, upon "The Methods of Rendering the Female Bladder Accessible," states that the proper way to avoid splits in the mucous membrane of the urethra, during rapid dilatation, is to make small radiating incisions through the mucous membrane around the meatus before commencing the dilatation. The meatus not being endowed with a coat containing as much muscular tissue as the rest of the canal, does not dilate so readily. Such being the case, it will be far more imperative to slit the meatus before commencing to dilate, when a Molesworth, or any other elastic dilator, expanding by hydraulic pressure, than when either Simon's hard rubber dilators or metallic sounds are used. The tissues at the meatus not yielding, the deeper structures may be very easily over-distended and permanently paralyzed.

Miss Mary R., called, complaining of difficulty and pain attendant upon the act of urinating, the pain continuing for a long time after the passage of the water. The mucous membrane around the meatus was red and swollen, especially the lower border. This condition had continued for two years without amelioration, although she had been treated by a good many competent physicians. The next day, Dr. John W. Niles giving ether, I trimmed off the swollen mucous membrane from the lower part of the urethra with the curved scissors, and dilated with conical steel sounds until I could pass my index finger into the bladder. Nothing abnormal being found, she was put on anodynes and diuretics. The operation afforded considerable relief—so much so as to enable her to go out into company once more, which she had not done for some time before—the pain having been so nearly continuous as not to permit it. Yet at times after the operation there would be almost as much pain as before.

I now wanted to get a view of the entire length of the urethra. Not knowing of any urethral speculum, I improvised one by cutting off two inches of the open end of a test tube and grinding the distal end to an angle of 45°. By placing the patient on her back and inserting this speculum, I obtained an excellent view of the urethra, by throwing the light from a laryngoscopic lantern with a brow mirror into the tube. Still there was one difficulty: sometimes one or more hairs would project across the opening of the speculum. To obviate this, I passed the speculum through a hole in the bottom of a wide pill box, which made an excellent shield. Viewing the urethra with this arrangement, an inflamed crevice was discovered, nearly back to the bladder, on the superior side. This was touched several times, at intervals of a week, with fuming nitric acid, which finished the cure.

Since then, F. G. Otto & Sons, of New York, have made for me a nest of three female urethral specula of metal, fitting one within the other like ear specula. The largest is two inches long on the longest side and one and a half inches on the shortest side and a half inch in diameter. Accompanying them is a hard rubber shield that can be used on any of them, to prevent hairs obstructing the field of vision. I have added two swivel buttons to the shield, since receiving it, so that the tubes are held secure and steady while operating. A cut of the instrument is here produced from a plate furnished by the Messrs. Otto.



The instrument will be found very simple and useful, and may be used as an endoscope for the anterior portion of the male urethra.

Occasionally vascular caruncles will be found posteriorly to the meatus in the urethra, and these specula allow of their ready detection and treatment. So far, I have adopted but two modes for their destruction: One by cauterizing with fum-

ing nitric or crystalized carbolic acid; the other by transfixing the growth with a long slender needle—a fine knitting needle sharpened and bent at an angle of 45°, three inches from the point—through the base, and slip the loop of a Wilde's ear snare over it and pinch it off.

Their destruction with the galvano-cautery would probably be more easily accomplished, and the cure would possibly be more permanent. It is a well known fact that these growths are very liable to recur.

Clinical Reports.

A Case of Hydatids of the Kidney—The Value of Carbolic Acid in Treatment. By A. M. FAUNTLEROY, M. D., Ex-President Medical Society of Virginia; Member Virginia State Board of Health, etc., Staunton, Va.

At the meeting of the Medical Society of Virginia, in Petersburg, last fall, I presented some well preserved specimens of hydatid vesicles, *furnished by this case*, and made, orally, a brief reference to the same. Though it is well known the echinococcus hominis may infest any of the organs and tissues of the body, yet it is such a rare occurrence for the kidney to be invaded by this animal parasite, that the records of medicine afford few instances—only sixty-one according to Dr. Wm. Roberts—in which full details are communicated of hydatids of the kidney.

The rarity of the affection is not its only claim to consideration. How best *to meet its causal indications* is a question vitally interesting. Does the materia medica contain a parasiticide which would act efficiently through the indirect and circuitous route of the circulation? It occurred to me that carbolic acid might fulfill the requirements, suggested by the consideration of its destructive influence upon low organisms and the characteristic urinary changes incidental to its elimination. The results in the premises will show how far experience supports the theory advanced.

From the subject of this sketch, now 45 years of age, it was ascertained that, for years, he had suffered at irregular intervals with pain in the left lumbar region, whence by radiation the hip, thigh (of the same side) and bladder would

become painfully involved. There was marked abdominal tenderness; frequent painful and often prolonged efforts at micturition, ending, after much suffering, with the discharge of turbid urine. The discharge was usually preceded or accompanied by the escape of small cysts, containing a translucent fluid. At times the little bladders were discharged already broken and void of contents.

Upon the first consultation, in August, 1877, the patient gave in substance the foregoing account from which I ventured to make the diagnosis of hydatids of the left kidney. After a few days, he returned with three unbroken vesicles, ranging in size from the largest pea to a pigeon egg, and a bottle of urine voided at the same period as the vesicles. Under a magnifying glass, the vesicles exhibited a yellowish hyaline membrane, containing a very nearly colorless fluid, in which could be observed a few small vesicles, floating about.

By mere microscopic examination of the urine, fragments and shreds of membrane could be identified. The corpora delicti fully corroborated the diagnosis based upon the patient's intelligent recital of the symptoms and signs of his disease. The patient's statement that he was never entirely free from a sense of discomfort in the region of the kidney, was exceptional to the usual condition during the latency of the cysts, as stated by a number of writers. For some days preceding the rupture of the hydatid cyst, there was an increase of uneasiness. This was also an unusual occurrence, according to the statement of several authorities, but consonant with the experience of Ebstein, who affirms its frequent occurrence (*Ziemssen's Cyclopædia*, page 751, Vol. XV). Upon examination, no enlargement or tumor was found in the region of the kidney. From this fact, and the apparent readiness with which the hydatid cyst ruptured into the *renal pelvis*, it was inferred that the pyramidal structure of the kidney alone was implicated. The ready escape of the so-called daughter vesicles *per urethram*, together with the above circumstances, afforded grounds of a favorable prognosis.

A mild laxative to correct the tendency to constipation was ordered to be taken *pro re nata;* warm applications to abdomen, with the exhibition of an anodyne, if necessary, during the periods of paroxysmal pain. These measures comprised the symptomatic treatment. To destroy the hydatid cyst, the following was ordered:

℞. Acidi carbolici (cryst.)...grs. xxx.
Pulv. glycerrhizæ.....℥j.
M. Fit pil No. xxx.—S.: One pill three times daily.

It was hoped by this means to bring the system gradually under the influence of the remedy.

After having taken the mixture prescribed, the patient expressed himself as relieved of the discomforts in his left side, which had so long annoyed him. The urine was painlessly voided, though plainly charged with the *debris* of the hydatid vesicles.

The same treatment has been pursued, with brief intermissions, ever since its inauguration. The patient has gained considerably in flesh (as shown by his weight), and is exempt from all uneasiness and discomfort. He has experienced no more severe paroxysmal attacks with the discharge of hydatid vesicles. The urine, however, has exhibited some *debris*, more or less, all the time. The hydatids have been evidently "nipped in the bud."

Though I do not claim the patient as cured, yet the gratifying results achieved, certainly warrant the indulgence of the belief, that in carbolic acid we have an agent capable of lessening the vitality and retarding the development of the hydatid cysts. This much may be claimed as an advance in the treatment for the echinococcus.

Case of Complete Unilateral Perspiration, with an Excess of 3⅛° F. in the Axilla of the Perspiring Side. By MERIWETHER LEWIS, M. A., M. D., Lenoir, Tenn.

In the summer of 1877, Mr. Granville Morton, æt. 30 years, married, came under treatment for intermittent fever. While improving rapidly on appropriate treatment, he exposed himself improperly, and was taken with pneumonia of the right lung. The left lung, also, soon became affected—never so much, however, as the right. Six years before the patient had undergone a severe attack of the same disease, affecting chiefly, as at the present time, the right lung, and had never felt "exactly right" in that side since.

The present attack passed through the usual stages, presenting the common physical signs of the disease in a very marked and beautiful manner. By the 12th day, the stage of resolution had been fairly established, presenting the usual "redux crepitant rhonchi," bubbling râles, &c.

Believing the natural tendency of uncomplicated pneumo-

nia to be always toward recovery, provided the vital powers are sustained and the excretion of effete products favored, the case had been treated with stimulants, diaphoretics and diuretics—strict attention being paid, at the same time, to diet, hygienic surroundings, and to frequent changing of position. If not mistaken, I am indebted to a casually-heard lecture by Prof. T. S. Bell, of Louisville, Ky., for the above treatment. As I have employed it in over 200 cases of pneumonia with only two deaths, I may safely recommend it. As all these cases are carefully recorded, I may, at some future time, analyze them and present the results to the profession.

Convalescence being now established, tonics and stimulants were pressed with redoubled energy, and on the 20th day, the patient was discharged cured.

He was cured of the pneumonia, but not, as the sequel shows, of *chills*. Eight days lapsed, and then the "everlasting chills," as he called them, returned. And now the strange phenomena of the case began to occur.

The paroxysms, coming on between three and four o'clock P. M. on each alternate day, presented the usual symptoms of intermittent fever, with the exceptions that the sweating stage became longer and longer, until, finally, it lasted almost the entire night, and the perspiration was confined *strictly to one side of his body*—the right—and never passed beyond the median line.

Becoming, as it were, true nocturnal perspirations in character, and exhausting the patient by their disproportionate severity, they were treated accordingly. In addition to regular doses of quinia, the patient received a special treatment for the perspiratory stage in the following prescription:

℞. Quiniæ sulphatis.....5ij.
Morphiæ sulphatis.....grs. vj.
Zinci sulphatis.....5j.
Acidi sulphurici aromatici.3j.

M. S. Twenty drops in water, every four hours during the night.

Under this treatment the chills soon ceased to occur, while the nocturnal sweating continued to some extent for several nights. Gradual improvement, however, was merged into complete relief on the 7th night by the addition of sulphate of atropia to the prescription.

From this time on, the patient's health continued pretty fair for nearly a year, when he was again attacked by his old enemy, the chills. Unilateral perspiration again took place, but did not amount to *hydrosis*. He was seen about a week

after the first onset of this attack, when he received the following prescription:

℞. Ferri sulphatis.....5ij.
Quiniæ sulphatis.....5iv.
Morphiæ sulphatis.....grs. xvj.
Acidi sulphurici aromatici...5ij.
Aquæ.....5iv.

M. S. Teaspoonful three times daily, in water, after each meal.

Recovery followed rapidly, as it usually does the exhibition of the above recipe, but still the patient continued to perspire, when at all, on one side only, never exceeding the exact medial line.

I extract from my "Case Book," the subjoined examination of the patient, made at the date of giving the above prescription.

"*Examination of Granville Morton.* 11 A. M., *March* 15th, 1878. Right side perspiring freely to the median line; left, cool and dry. Temperature in the right axilla, 104° F.; in the left, 100⅛° F. Lungs, right, some dullness over upper lobe; sounds, normal, with the exception of slight mucous râles in the upper part. Left, perfectly normal. Heart, normal in size and action. Some soreness of spine over the first and second lumbar vertebræ. Pulse, 88; appetite, moderate; bowels, regular; kidneys, normal; perspiration intensely acid; urine free from albumen; phosphates and chlorides abundant."

Another examination made on the 10th April, 1878, gave the following results:

"1 *P. M.*, *April* 10, 1878. Has not had a chill since commencing the use of the last prescription (given above). Right side perspiring slightly; temperature in the right axilla 100° F.; in the left, 98⅛° F.; perspiration acid; kidneys, and all his organs generally, in a pretty normal condition. Soreness all gone from the spine, as I had had blisters applied at his former examination. Is actively engaged on his farm."

As perspiration tends powerfully to prevent, as well as to reduce excessive temperature, it is exceedingly strange that there should be a difference of 3⅛° F. in favor of the dry or unperspiring side.

While the former attack of hydrosis was at its maximum, last summer, there was frequently a difference of 2° F.; but this was never exceeded. At that time, the perspiration was

neutral; and whether from the preceding attack of pneumonia, or from the excessive secretion of the sudoriparous glands, the urine showed a very marked diminution, both of phosphates and of chlorides.

As the perspiratory action of the sweat-glands depends principally upon nerve action, and is but slightly influenced by vascular conditions of the skin, it is evident that this case of unilateral perspiration must be due to some lesion, either of the nerve centres, or of the nerves distributed to the sweat-glands upon that side of the body. But what that particular lesion may be, I leave to others better versed in nervous pathology to decide.

Without taking pains to search for similar cases in medical literature, I may state, that I can recall only one other case in which the entire half of the body was affected. It is mentioned by Wilson in his work on "*Healthy Skin*." Nowhere, however, have I ever seen any account of so strange, and, indeed, almost incredible a case as the one I have just recorded.

That there may be no doubt as to the accuracy of the above account, I will state that the temperatures were taken with one of Tiemann's self-registering thermometers, and, each time, in the presence of one or more physicians besides myself.

A Case of Renal Asthma. By O. FAIRFAX, M. D. (Read before the Richmond Academy of Medicine), Richmond, Va.

On April 6th, I was called to see Mrs. P., the mother of six or seven children, and then nursing a child of about two months of age. I found her suffering with a severe pain in the back of the neck, much aggravated by any attempt to turn the head suddenly to either side. There was little or no febrile disturbance of the pulse; and no morbid heat of skin, nor headache. She told me that she had been suffering for several days, and that the pain became worse every evening about 4 o'clock. I directed twenty grains of sulphate of cinchonidia, to be taken in the course of two or three hours.

About the middle of the following night, she sent me word that she was suffering with great difficulty of breathing. Supposing that it was only a hysterical alarm, I did not visit her, but sent a prescription. Upon calling next morning, I found

her sitting up in bed, with a very anxious and livid countenance, and breathing like one with a severe attack of asthma. Finding, upon examination, no signs of heart disease, and that the air had free access to both lungs, with the exception of the infra-scapular regions, where there was slight, fine crepitation, indicating some œdema, I was puzzled to account for the extreme embarrassment in the respiration, and could only surmise that it was some obscure neurotic derangement. But discovering, upon further scrutiny of the case, that there was some diffused œdema of the surface, chiefly noticeable in the face and hands, and procuring a specimen of the urine, I found that it contained about one-fourth of albumen, a great quantity of epithelium, many casts and some blood globules; and though the whole quantity passed was very scanty, the specific gravity was not above 1013. Concurrently with the establishment of free action of the kidneys and skin, which was effected in two or three days, the respiration became easy and natural. The pain in the neck and the œdema of the surface grew less, and now, at the expiration of thirteen days, there is not much more than a trace of the albumen, and the œdema is entirely gone.

While treating this case, I was much pleased to meet with an article on "Renal Asthma," written, with his usual ability, by Dr. George Johnson, senior physician of King's College Hospital, which, I think, explains the pathology of my case. Dr. Johnson, in describing the affection, says, "It is not persistent, but occasional and intermittent." In this respect, his description differs from my case, which, though coming on with great suddenness, subsided only after a free draught on the serum of the blood, and has, so far, not recurred. He says, "a plug in the pulmonary artery causes a sense of suffocation as urgent and distressing as an obstruction in the larynx, trachea or bronchial tubes. * * * Now it has occurred to me that the paroxysmal dyspnœa of Bright's disease may be, in part at least, explained by an interrupted circulation through the pulmonary capillaries occasioned by spasm of the pulmonary arterioles, which are stimulated to this excessive contraction by the influence of impure blood upon the vaso-motor nerves and centre. * * * If, however, the secretion of urine be very scanty, and the blood consequently much contaminated by retained excreta. * * *—in this condition the breathing is often most re-

lieved by means directed toward the purification of the blood by promoting the free action of the skin and bowels. * * *"

I have not done justice to Dr. Johnson in garbling his article, and taking out only those parts which would go toward establishing a differential diagnosis between this form of asthma and those various forms of difficulty of breathing, including bronchial asthma, any one of which may arise in the progress of Bright's disease, but may be recognized by their respective physical signs; but I would commend to those who may feel an interest in the subject the perusal of his paper, which may be found at page 78 in the last number (January, 1878,) of *Braithwaite's Retrospect.*

The chief interest in my case, and which gives force to Dr. Johnson's explanation, is the presence of such extreme difficulty of breathing, for which auscultation and percussion point out no adequate cause.

There is an editorial in *Braithwaite* quoting, as very plausible, a simple explanation of the pathology of Asiatic cholera, given by Dr. C. W. Bell and by Dr. Johnson, in which view all the phenomena of an attack of cholera are beautifully accounted for, among other symptoms attributing the sense of suffocation and pain in the præcordia, to the contraction of the pulmonary arterioles, provoked by the irritating effect of the virulent poison of the disease upon the sympathetic nerve.

Correspondence.

Random Notes from the Frontier.

Opium Habit—Has it any Prophylactic or Remedial Effect on Consumption?—The proceedings of Richmond Academy of Medicine, published in the March number of the *Monthly*, interested me greatly, especially the remarks on the "Opium Habit," which is a growing evil all over our country, markedly so in the West, where the Chinese are introducing the custom of smoking the drug. I mention the subject more especially now to elicit the views and experience of the profession regarding the influence of its habitual use on tuber-

culous diseases. My life in the West has brought me in contact with many Chinamen, and I have yet to meet the first case of consumption among them. Other physicians, to whom I have mentioned the subject, confess the same experience. I have no data or statistics to prove such an idea, and no new theory to advance, but if it could be proven that opium does prevent or check the progress of this class of disease, it might aid in working out an improvement on the present treatment. Do not understand me as wishing to popularize such a fearful remedy, but cases might occur where it would be well to use it. With all its fearful effects, it cannot be worse than the habitual use of alcohol, which is now so popular a remedy for tuberculosis—the "remedy often proving worse than the disease," and leading to more serious results. Thirty years experience of the New York Mutual Life Insurance Company shows *twenty per cent.* of total deaths was due to consumption, and these were selected cases, almost exclusively from the stronger sex—a large majority having passed early manhood when examined. Truly, the worst enemy is this disease to the human race.

Oblique Fracture of Femur—Indian Method of Transporting the Patient, etc.—On returning from an Indian scout in the spring of 1874, and about fifteen miles from the San Carlos Indian reservation, an allied Apache soldier, in chasing a wounded deer, fell and fractured the femur near the middle. I was several miles ahead, with the advance column, and when I returned to him, I found his comrades had acted surgeon and prepared him for transportation, and their method was so simple, and in this instance so effective, that I think it worthy of record. The leg was flexed upon the thigh, and bandaged from the knee to the hip, thus making the leg act as a splint and support. A sling extended from the ankle to the opposite shoulder, and in this condition he was placed astraddle of a mule, behind a companion, and conveyed to camp without manifest pain. On reaching the Reservation, I proposed to treat him, but he preferred his own "medicine men," who straightened the limb and applied a splint as follows: After wrapping the thigh with a piece of old blanket, they interlaced small slips of wood (about a foot long and an

inch wide) with strips of buckskin, and bound them tightly—neither the hip or knee giving any support.

I was unable to follow up the case, having been ordered away, but I met the Indian several months after at Camp Apache with quite a good limb, and he could outrun me. The foot was everted and the limb shortened about two inches, but he had excellent use of it—apparently equal to the other.

Anything bearing upon the transportation of wounded is of interest to army surgeons, and especially so (as in this case) where wheeled vehicles cannot be used. I know of no better means to-day of transporting a case of fractured femur than this method of the wild Apaches, though fortunately, I have not met any other injuries of this kind where an ambulance or wagon was not available.

Chronic Lead Poison—Common Salt as Prophylactic and Treatment.—Cases of lead poisoning in the East are comparatively rare; but in certain sections of the West, where the mines contain more or less of lead ore, it is very common. While at Camp Douglas and in Salt Lake City, I saw at least a hundred cases. A large majority of the cases in the charity hospitals there were "*leaded*," *i. e.*, suffering from chronic lead poison. I think I have seen thirty cases at one time in these two hospitals. It is a great calamity to a miner to get "leaded," both from the loss of time and suffering involved, and the susceptibility of the system thereafter; and from my observations, it leaves a lasting impression and impairment of muscular vigor. It is a curse to mining interests generally, involving higher wages, and sometimes delaying progress for want of hands. The general treatment there was opium and sulphuric acid (and sulphates), potassium iodide, hot baths, &c., under which treatment most of the sufferers survived—for I can't say were cured. The *sulphur vapor* bath seemed to act well. I saw a man after one of these baths blackened by the sulphide of lead, a portion of which I scraped off and tested chemically. Only a few cases came under my own treatment, and they did well under the following remedies: The sulphur vapor bath daily, as a rule, opium to allay pain, Rochelle salts when a laxative was

needed (sometimes ℥j castor oil and 1 gtt. of croton oil acted well), *muriate ammonia* (more properly the *chloride* NH_4Cl) and *common chloride of sodium*.

I have long since been satisfied that the chlorides were better adapted to relieve such cases than the iodides, and I was truly pleased to read the article from Dr. George Hay, in the Philadelphia *Medical Times*, of March 16th. He corroborates my views and expresses them better and more logically than I could have done, and I believe this treatment will soon supersede all others, with happy results to the sufferers. I believe, and have often recommended, a teaspoonful of common salt, in a glass of water, night and morning, and I think it will prove the best prophylactic known to the profession. One drachm of chloride ammonium, gradually increased to two or more within the twenty-four hours, according to the gravity of the case, and tolerance of the stomach, was my usual prescription. Rich and easily digested food is of great importance. Asparagus exerts a peculiar and decided influence for good, and when available, should be given to those who can relish it.

Remarkable Case of Infantile Vitality—Descending Colon on Right Side.—On the night of the 12th April, 1878, a number of Apache captives concluded to avail themselves of the darkness and rain to escape from their post, particularly as the rain would obliterate their footprints and retard pursuit. Among the number was a pregnant squaw, nearly "nine months gone." She waded the Verde river, waist deep, and got about a mile off, when labor came on, and she gave birth to a male child. This delay resulted in her speedy capture, and she walked back to the post, and the child was reported as born dead. Wishing to procure the corpse for anatomical purposes, I sent out an Indian scout, with one of the hospital nurses, and orders to bring it secretly to the hospital. In a short time, the nurse, who is a kind hearted soldier, rushed into my quarters abruptly and said, "Doctor, I have got the baby, but 'taint dead; come over to the hospital quick, its breathing." He found it lying on the ground, with its mouth, nose, eyes and ears full of sand and gravel, and, as he stated, "*a chunk of fresh meat fastened to its belly*," which

he supposed I didn't want, so he cut the string holding it and left it behind. As he took up the infant, he discovered signs of life, and after carefully removing the sand and gravel, he hastened to me. He also observed that there was a stone in its throat, which he could not remove, and which I found difficult to do. After an hour's effort to restore the little waif, a lusty cry showed the reward of perseverance. It was then wrapped in a swaddling-cloth, and placed near the stove, when I went to investigate the matter and see what I could best do with it, for being a bachelor and never having nursed an infant for more than five minutes, I was at a loss, and from information given me, I thought the captors must have destroyed (or rather tried to kill) the babe, and that the mother would be glad to receive it safely into her arms. So I accompanied it to her, and fancied she was pleased to possess it. But that evening she escaped from the guard, and after an hour's absence, returned without the babe. The cause of this cruelty is to me inexplicable.

I secured the body after some difficulty, and on making a *post mortem* found the *descending colon* on the right side—which fact I should probably have overlooked, had not hospital steward McGuinness, who is studying medicine, asked me to demonstrate the viscera. This fact has an important practical bearing, as, for instance, who would think of a perityphlitic abscess on the *left* side. It is well to know and remember that such abnormal conditions may exist.

That the child should have survived for four or five hours, with the respiration so obstructed, and, at the same time, exposed to a cold rainy atmosphere, is truly *remarkable.*

B. G. McPhail, M. D.,

Camp Verde, Arizona Territory, April 17th, 1878.

The Telephone in the Diagnosis of Stone in the Bladder, &c.

Mr. Editor,—Prof. Hunter McGuire [of this city] has a telephone in operation, running between his office and the "Retreat for the Sick." A few days ago, he suggested to me to detach the hand piece of the Bell telephone from the

instrument in his office, and attach it to a steel sound, and test it in a case of stone in the bladder.

The hand piece of the telephone contains a diaphram and permanent magnet. The slightest touch of the stone could be distinctly heard. When the sound came in contact with the calculus so lightly as not to be felt by the hand, the impression made upon the ear was plain and unmistakable and greatly intensified. This will be a valuable additional agent in the diagnosis of stone, and when we remember how many surgeons have been misled by the mere sense of touch, and how many patients have been cut and no stone found, we must foresee that it will be an agent employed by every surgeon in doubtful cases.

The same means could be employed in the diagnosis of foreign bodies in the throat, ear, nose, rectum, joints, limbs, and indeed anywhere in the body; and not many days will pass, before we will hear, through this instrument, new sounds in the chest, abdomen, uterus, &c., and our means of the diagnosis of diseases in these organs increased.

Very truly, &c., yours,

HUGH M. TAYLOR, M. D.

Richmond, Va., June 5th, 1878.

[Since the above note has been in print, we see in our secular papers, "June 22d," that Sir Henry Thompson has been making investigations in this same direction, but that Dr. Taylor's work was independent of Sir Henry Thompson can be seen from the date of his letter (*June 5th*).—ED.]

Viburnum Prunifolium in Menstrual Disorders and in Threatened Abortion.

Mr. Editor,—Noticing through your journal of January, 1878, the good effects of viburnum prunifolium in the treatment of female diseases, I am tempted to speak of its remedial efficacy. I have been using it almost daily for the last four years to relieve females suffering from suppression of and painful menstruation, and have always found it useful where there was not serious organic disease of the womb. More especially can I extol its virtues in the treatment of the

bad state of health consequent upon the change of life, for it is in those cases that it has been most useful in my hands. In profuse hæmorrhage during the critical period, it seems to answer better than the preparation of opium as a uterine sedative. Two years ago, I was called to a negress in premature labor; it was the sixth child in four years. She was about to miscarry. The habit of premature labors had become established. Opium had been used in her previous labors by other physicians, but without good effect. I put her upon a decoction of black haw, and, much to my surprise, quieted the womb; the children carried to full term; the periodicity was broken up, and she has never since miscarried. Respectfully,

WILLIAM LEWIS DINKINS, M. D.

Warrenton, Ga., June 1, 1878.

Tying Knots in Surgical Operations—Correction.

Mr. Editor,—In the June No. of the *Monthly* appears an article by Dr. Jesse Ewell, of Virginia, entitled "New Plan of Tying Knots in Surgical Operations," in which he describes a method that he has never seen mentioned in any surgical work. Dr. Ewell deserves credit for his discovery, though it is by no means *new;* on the contrary, it is rather old, for it is described and illustrated both in Druitt's and Gross' surgery. It was also taught in the Medical College of South Carolina ten years ago by Professor Kinloch. I have always adopted this method in applying a ligature, and find it managed without the least trouble. Even with the horse-hair suture, when passed around two or three times in the first knot, it does not slip. JNO. M. THOMPSON, M. D.

Silver street, S. C., June 19, 1878.

Bloodless Tracheotomy.—The *Lancet*, of March 23d, contains an account of a case where tracheotomy was performed without the loss of a drop of blood until the trachea was opened with a knife. All tissues anterior to the trachea were divided with Paquelin's thermo-cautery, at a dull red heat. *N. O. Med. & Surg Jour.*

Original Translations.

Translations from the German and French. By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

The Treatment of Hæmorrhage from the Lungs—Dr. H. Schnyder (*Allg. Wien. Med. Zeitung*, May 7th, 1878,) criticises severely the modes of treatment in common use for bleeding from the lungs, such as the administration of common salt, injections of ergotine, and the application of bladders of ice. He thinks they are useless or worse than useless. The best means, in his opinion, for the relief of congestion, or a hyperæmic condition about the lungs, is an old remedy which has fallen into disuse of late years—the application of cups. The number of cups to be applied must depend on the amount of congestion, and the effect which it is desired should be produced. A considerable amount of blood can be withdrawn from the general circulation, and will be kept in the outer wall of the chest. In comparatively mild cases, dry cups are applied to the thorax on the side corresponding with the congested lung, while if the bleeding is severe, wet cups should be placed on the affected side. This method of treatment is used also when there is simple congestion of the lungs in order to prevent hæmorrhage.

Hydrophobia in a Woman Bitten during Pregnancy.—Dr. Crozier (*Annal. de Gynécologie und Rundschau*, April, 1878,) reports the following interesting case: A woman, forty-two years of age, and in the seventh month of pregnancy, was bitten in the hand by a cat, which had refused food and water for twenty-four hours. The wound healed readily, and the woman was confined at the proper time. Her labor and getting up was normal in every respect, and everything prognosed favorably until between eighty and ninety days after the bite was received, when pain in the muscles and twitching of the tendons were experienced. The lochial discharge, which was still tinged with blood, ceased. The child, which had been nursed from the time of birth, was taken with slight diarrhœa. Three days later the mother was taken with well-marked hydrophobia of great severity, which rapidly proved fatal. The autopsy revealed nothing. The child remained in good health after recovering from the slight diarrhœa previously mentioned.

Puncture of the Synovial Capsule of the Knee-Joint, and

the Injection into it of Tincture of Iodine.—Dr. Orlow makes a contribution to this subject in the *St. Petersb. Med. Wochenschrift*, April 6th, 1878. He reports two cases in which the synovial capsule was punctured and injected with iodine. The operation was practised eight times for a serous swelling of long duration, and twice for purulent collections in the joint. None of the cases were followed by any evil consequences; the patients were discharged soon after, and were not submitted to any further treatment. The age of the patients ranged from seven to forty-five years. The instrument used was a trocar twice the size of that used for explorations. The puncture was always made on the outer side of the knee-joint and above or below the patella, as the swelling was greatest. Anæsthesia was not resorted to in any of the cases. In two cases a severe local inflammation was produced, diffuse redness, doughy swelling, great pain, and general [febrile] reaction. The greatest swelling measured 43 centimetres; the slightest, 35. The greatest amount of fluid discharged was 120 grammes; the smallest, 12 grammes. The mixture used for injecting the joints consisted of four grammes of tincture of iodine (Prussian pharmacopœia) and twelve grammes of distilled water. A part of this flowed out again immediately after the injection; the rest remained in, but did not give rise to any troublesome symptoms. The inflammatory symptoms rapidly subsided, and as yet, after a lapse of eight months, no relapse has occurred. The little opening made by the trocar was closed by a piece of adhesive plaster immediately after the operation.

Discussion as to the Proper Method of Ligating the Spermatic Cord.—At the meeting of the Société de Chirurgie on the 8th of May last, a paper was read by the Secretary for M. Poinsot, of Bordeaux, detailing a case of scrotal hæmatocele, in which castration had been practised. This led to quite an animated discussion of a question which is by no means a new one—namely, whether it is better to ligate the cord *en masse*, or to endeavor to isolate the vessels and ligate them separately. In M. Poinsot's case, the cord was separated into two parts, and both ligated, which was, of course, equivalent to placing a ligature around the whole cord at once. The patient recovered completely in a few days without any accident whatsoever.

M. Depres stated that ligation of the whole cord was bad practice, because it was liable to cause tetanus. He stated that he had seen such cases, and considered it highly reprehensible in a surgeon to expose his patient to such a danger.

M. Verneuil stated that he had reported a case of tetanus caused in this way; and he stated that Paletta had lost a patient under similar circumstances. He was convinced that if the literature of the subject were examined, a number of such cases would be found. But besides the possible complication of tetanus, M. Verneuil stated that the ligation *en masse* presented other inconveniences, such as funiculitis and painful swelling in the inguinal canal. He preferred to ligate all the vessels of the cord, both arteries and veins, separately. The spermatic veins have no valves, and hence require ligation to prevent hæmorrhage. He considered catgut ligations superior to those made of other materials.

M. Le Dentu stated that ligation of the cord *en masse* caused intense pain, which could easily be avoided by ligating the vessels separately. He said he had experienced no difficulty in isolating the blood vessels.

M. Tillaux thought the question a very complex one. He did not think it had been proved that tetanus was caused by ligating the nerves of the cord and vas deferens. He had, himself, repeatedly performed the operation of castration, and placed a ligation around the whole cord without experiencing the slightest injurious results. On the other hand, he stated that tying the arteries one by one was often very difficult; the arteries retracted so much, that it was often difficult to find them. There was another point which he thought worthy of remark—namely, the length of time which elapsed before the ligatures came away when the cord was tied *en masse*. To avoid this inconvenience, M. Tillaux divided the cord into three parts, and tied each separately.

M. Marc Sée had long since abandoned the ligature *en masse*, and now tied each vessel separately.

M. Terrier mentioned that Chassaignac, who performed castration with the linear écraseur, had never had any trouble from hæmorrhage, either primary or secondary; nor had he ever met with tetanus caused in this way. He also mentioned that tetanus is never caused in animals, though the cord is always ligated *en masse*.

M. Desormeaux stated that his method of operating was to separate the vas deferens from the other portions of the cord, and then tie all the structures, except this, in one bundle. He had never had any ill-results from this practise.

M. Prestat said he had seen Guersant operate on a patient, and ligate the cord *en masse*; the patient died in three days, but not with tetanus. He, himself, tied all the vessels of the cord separately.

A Contribution to the History of Spinal Gout.—M. Auguste

Ollivier read a paper with this title before the Académié de Médicine, on the 14th of May last. We take the following brief extract of it from *Le Progrès Médical* of May 18th. An observation recently made by Ollivier has convinced him that there existed a peculiar affection of the spine, due to gout, which is characterized by the infiltration of the external surface of the spinal dura mater with urates. This affection consequently falls in the category of visceral gout. These spinal manifestations have been referred to before, but never fully described, and in none of the previous references to the subject is there any reference to their gouty nature. Indeed, their essential characteristic, the existence on the dura mater of concretions of urate of soda, has not been previously observed.

Treatment of Ovarian Cysts by the Establishment of a Permanent Fistula without Gastrotomy.—Dr. A. Tripier read a paper on this subject, before the Académie des Sciences, on the 6th of May last, an abstract of which is published in *Le Progrès Médical* of May 11th, and in the *Ally. Wien. Med. Zeitung* for May 14th.

The operation consists in establishing, by means of the negative or alkaline galvano-caustic, a permanent communication between the cavity of the tumor and the exterior. Through the opening thus made, injections, washings, cauterizations, &c., could be practised, and the advance of the disease checked, or retrograde changes be brought about.

In a case which is reported, the artificial fistula has served for the injection every day of a solution of iodine in water. The results in this case were very rapidly produced, as in less than a month a "relative" cure was obtained. In view of the fact that the operation of gastrotomy in cases of ovarian cysts has been attended with such favorable results of late years, M. Tripier does not think the operation, which he now proposes, will ever take the place of gastrotomy; but the circumstances which combine to make the latter operation so successful in the hands of certain surgeons, are such that many practitioners will never undertake it, and it is just this class who, he thinks, will find the operation proposed by him a great assistance, it being easily performed and comparatively free from danger.

Translations from Spanish and French. By CHARLES R. CULLEN, of Henrico county; P. O., Richmond, Va.

Hysterotomy.—M. Pean recently presented to the Academy of Paris (*Journal de Therapeutique*) synopses of his operations.

Of twenty-six cases of hysterotomy, twelve cases were successful and six were fatal.

Typhoid Fever.—M. Jaccoud, in the Academy of Paris, gave a brilliant discourse on typhoid. He maintained that accumulations of fæcal matter alone may produce the disease. He reviewed the histories of 106 outbreaks of the fever in different parts of the world, and made special remark concerning a notable instance in Norway in 1868. A village had forty-five houses and seven wells. Four of these wells were infected by the fæcal accumulations near by; probably one of three other wells was infected, but the other two contained pure water. Two hundred and ninety-four persons residing in thirty-six houses, used water from the infected wells, and among these persons, 121 cases of typhoid fever (nearly 50 per cent.) resulted. On the other hand, thirty persons in seven houses drank pure water, and only one case (not 3 per cent.) of fever resulted.

Zinc Oxide and Soda Bicarbonate for Diarrhœa.—Dr. Bouany states (*Bul. de Therap.*) that in chronic diarrhœas, *every* case treated with oxide of zinc and bicarbonate of soda resulted favorably. Under ordinary circumstances, most diarrhœas return, but under this treatment they do not return.

Chlorate of Potash for Diarrhœa.—Dr. Murcorvo concludes (in the Portugese journal, *Progresso Medico*, published in Rio Janeiro, Brazil.) that chlorate of potash exercises beneficial effects upon the mucous membranes, and when given in large doses—from four to ten drachms—accomplishes the object. He feels assured that a trial by the profession will sustain his treatment. [For many years chlorate of potash has been successfully used by practitioners in this country for chronic diarrhœa and other chronic affections of the mucous membranes.—*Editor.*]

Local Treatment of Erysipelas.—Dr. Cavarrani, in the *Italian Medical Gazette*, published at Venice (according to *Revista Medicina y Cirurgia Practicas*, Madrid), states that he uses the following formula as a local application in the successful treatment of erysipelas:

℞. Camphor.....
Tannin.....aa grs. xv
Ether.....℥ij

M. S. Apply every three hours. This was the original prescription of Trousseau.

Local Anæsthesia.—℞. Powdered camphor.....℥iv
Sulphuric ether.....℥j

M. Dissolve and apply to the part before operating.

Epilepsy.—Prof. Kunze professes (*Weiner Medizinish Zei-*

tung) to have cured nine cases of epilepsy out of thirty-five by the use of the following combination, used hypodermically:

℞. Curare.....gtt. ss
Distilled water..... " v
Hydrochloric acid [dilute].. " ij

M. S. Repeat once daily for six or eight days. No particular regimen is enjoined, except that no alcoholic liquors are to be taken. Milk is the best diet.

Epilepsy from Intoxication has been treated successfully by chloral hydrate, fifteen grains, two or three times daily; use wine in the place of alcohol; bicarbonate of soda occasionally, and moderate work.

The Function of the Spleen, according to a lecture by Dr. Schiff, is to color the blood globules red.

Statistics of Lying-in Asylum, Buenos Ayres, 1877.—Cases, 163; births, 166; vertex presentations, 151; arm, 1; pelvis, 10. Positions of the vertex—87 in the first position; 35 in the second; 17 in the third, and 7 in the fourth. Sexes—93 males, 73 females. Live-births, 139; dead, 21. Mothers died from metro-peritonitis, 5; phthisis, 1. Forceps used in eight cases because of uterine inertia, and in one because of eclampsia. Hæmorrhage in forty cases. In thirty-five cases, one turn of the cord around the neck; in five cases, two turns. In nine cases, one hand came down; in three cases, both hands came down.

Comparative Mortality of Buenos Ayres in 1877, with other Countries and Cities.—Norway, 1.88 per inhabitants; Switzerland, 1.97; Denmark, 2.02; Greece, 2.06; Scotland, 2.22; England, 2.27; France, 2.30; Belgium, 2.40; Holland, 2.54; Prussia, 2.69; Finland, 2.70; Saxony, 2.91; Bavaria, 2.99; Italy, 3.06; Buenos Ayres, 3.13; Wurtemberg, 3.16; Austria, 3.25; Russia, 3.54. Berlin, 25 per 1,000; Brussels, 30; Dresden, 24; Edinburg, 29; Copenhagen, 22; London, 22; Manchester, 36; Munich, 35; Naples, 37; New Orleans, 38; New York, 22; Paris, 33; Stockholm, 28; Turin, 33.

Dr. Jaquacibe, of Rio Janeiro, considers the plant called "*La Mutamha*," obtained from the Rio Llano, as a valuable astringent in leucorrhœa, bowel complaints, and in sloughing ulcers in any part of the body. An infusion of the bark, or of the mucilaginous fruit of the plant, has the same effect.

Croup.—In a discussion before the Buenos Ayres Medical Association (*Revista Medico Quirurgica*), Dr. Herrera stated that he gives internally, hourly, doses of perchloride of iron, while locally he uses the same remedy or borax dissolved in

glycerin and phenic acid; he also uses inhalations of phenic acid or turpentine. If these fail, he resorts at once to tracheotomy. Of fourteen operations during the past year, eight were successful, although Dr. Barthez reported that two-thirds of the operations are unsuccessful. At a subsequent meeting, Dr. H. gave comparative statistics as to the several modes of treating croup and diphtheria. By *free emesis*, Bouchut cured fifteen out of thirty-one cases. Valleix and others cured 108 out of 135 cases. Chlorate of potash, used by many physicians, seems to have little effect. Venesections, caustics and revulsives amount to nothing. The best treatment is the chloride of iron in hourly doses, according to the age of the subject, and the use of milk half an hour after the iron. It must not be overlooked that quinine, tannin, etc., are incompatible with iron. By this mode of treatment, Dr. Auburn reports thirty-nine cures of very grave cases, and only two fatal cases. Trousseau, Scheller, Jacobi, Isnard, Simon, Jaccoud employ it in both croup and diphtheria. In short, to accomplish cures, it is necessary to commence treatment and continue to the end with chloride of iron.

Proceedings of Societies.

Baltimore Academy of Medicine.

June 4th. This being the last meeting before the summer vacation, Dr. J. J. Chisolm, Chairman of the Executive Committee, reported that the next meeting of the Academy would be held in their new rooms in October.

Loss of Tongue with Restoration of Distinct Articulation. Dr. I. D. McKew exhibited a patient who had lost his entire tongue by accident, but who could articulate perfectly any word. He read for the members out of a medical journal, and could be distinctly understood by every one present from any part of the room. When twelve years of age, he was run over on the street and terribly crushed. Both jaws were excessively fractured, and he lost much bone from the right side of the face. Beside these injuries, he had fractures of the clavicle, scapula and ribs, on the right side, with much blood extravasation over the right side of the chest. Ten days after the accident, the entire tongue sloughed off from near the hyoid attachment. For three weeks the child was nourished exclusively by enemata. For two years after the accident, the boy could not express himself recognizably in words. About that time he commenced to speak, and

now, after ten years, he articulates so distinctly as to secure employment as a clerk. He finds no difficulty in eating.

Upon examining the mouth, the two sides of the lower as well as upper jaw have their rows of teeth approaching within a half inch of each other, and the great mobility of the floor of the mouth, thickened by this crowding, enables the food to be kept under the teeth in masticating. Only a small nodule of tongue is visible at the pharyngeal orifice.

Inversion of the Uterus.—Dr. H. P. C. Wilson reported a very interesting case of inversion of the uterus of seven months standing—the sequel, as usual, of labor. The case had been mistaken for one of polypus. The lady was brought to him for treatment just prior to the menstrual period. Before she submitted to the operation he had the satisfaction of seeing the menstrual fluid oozing from the entire exposed surface of the mucous membrane of the uterus in the abnormal, turned inside-out condition of that organ.

Post-Partum Hæmorrhage—Treatment.—Dr. Wilson also reported a very serious case of excessive post-partum hæmorrhage, in which life was threatened. After trials of lumps of ice in the uterine cavity, and the usual kneading manipulation, he succeeded in checking the bleeding by raking the inner face of the uterus with his finger nails.

When asked whether he had tried hot water in such cases, he stated that he had not used hot water injections in post-partum hæmorrhages, but that in cases of menorrhagia he had often seen it diminish the flow. In some cases menstruation was altogether prevented by the use of hot water douches used in anticipation of the menstrual period. Other members of the Academy joined testimony to the controlling efficacy of hot water injections in case of excessive menstruation.

Faradism in Malingering Epilepsy.—Dr. F. T. Miles reported his experience with the murderer, Barlage, who killed his brother in Baltimore some months since. After being found guilty by the jury, and while awaiting sentence from the criminal judge, he simulated epileptic insanity, hoping thereby to be sent to the lunatic asylum rather than to prison. The free application of the Faradic current was too sharp a remedy for the impostor. It brought him to confession, and secured for him sixteen years in the penitentiary.

Blepharoplasty.—Dr. J. J. Chisolm reported a series of interesting cases in eye surgery. The first was a case of blepharoplasty in a young man who, when a boy four years of age, had an attack of facial erysipelas, terminating in abscess and sloughing of the right cheek under the eye. In the

healing, the lower lid had been drawn downwards into the cicatrix, completely inverting the lid and producing a very ugly deformity. Dr. Chisolm explained, by blackboard drawings, how, by a triangular flap, he had been enabled to replace the lid in its normal position, completely removing the deformity, and with scarcely visible scarring of the face.

Neuralgia due to Irregular Refraction.—Dr. Chisolm also reported three curious cases of reflex neuralgia brought on by irregular refraction of the eye in cases of astigmatism where marked defective curvatures existed in the cornea.

One case, a lady 27 years of age, had never been free of headache as far back as she could remember, notwithstanding the most varied medication of many physicians. Not being able to see fine objects as well as she desired to do, she applied to Dr. Chisolm for the adjustment of spectacles. A few drops of a four-grain solution of atropia in the eyes, by temporarily suspending the action of the intra-ocular muscles of accommodation, promptly stopped the headache and allowed her to enjoy the new sensation of freedom from discomfort. A combination of cardex spherical and cylindrical lenses corrected the hypexopic astigmatism, and not only gave her acute vision, but permanently cured the headache.

The second case—a gentleman of 25 years of age—was one of myopia, associated with a marked degree of astigmatism in the right eye. In using the eyes even for a few minutes on fine objects, a pain would commence in the temple, pass to the back of the head and neck, and then down the right arm as far as the wrist. This pain could be brought about at will, and never failed to follow a few minutes reading of fine print.

The third case was of a similar nature in a young lady who, with both eyes defective, would have pains extending down the arms, even into the fingers, whenever the eyes were used without the proper correcting glasses.

Dr. E. Cordell read the paper of the evening upon the tonic and curative effects of the waters of the Orkney Springs, Virginia.

American Medical Association.*

The twenty-ninth annual session convened in Buffalo, N. Y., *Tuesday*, June 4th, 1878, the President, Dr. T. G. Richardson, of New Orleans, in the chair; Dr. William B. Atkin-

*This report is compiled from excellent reports in the Buffalo (daily) *Commercial Advertiser* and *Daily Courier;* also from the *Medical and Surgical Reporter, Boston Medical and Surgical Journal, Medical Record.*

son, of Philadelphia, Secretary. Dr. T. F. Rochester made the welcoming address.

[Of the 549 registered in attendance during the four days session, only about twenty were from Virginia and the States south of it, including Kentucky, Tennessee, Missouri and Arkansas.]

Dr. Richardson's address, as President, referred first to medical education. He advocated the graded system as lately adopted by Harvard, the Chicago Medical College and the University of Pennsylvania. This system, he thought, had been in a great measure due to the frequent agitation of the subject in this Association. To make the Association more influential, arouse the interest of the whole profession in it, by encouraging the organization of State, county and district societies as auxiliaries of the National Association. When the whole profession is thus bonded, insufficient education will not be tolerated, and there will be none but the known empiric who will attempt to compete with the regular physician for practice. In regard to original investigations by American physicians, he thought they were very few as compared with those made and being made by foreigners. Congress should lend pecuniary encouragement to such investigations. As to the prizes offered by this Association for essays, Dr. R. suggests that the subjects for competing essays should be designated, requiring strictly original research, and giving more time for preparation. Let the prize be not less than $250, and the time for preparation be two years. Let Sections 1, 2, 3 and 5 annually appoint committees of acknowledged ability to announce subjects for competing essays belonging to one of the branches included in the title of the respective sections. Also appoint only experts to examine the essays. As to the possible objection of want of funds in the treasury, a little economy in current expenses will leave an ample balance. Besides it is not likely that all four prizes will be awarded every year. Even, if necessary, the annual dues of membership might be increased. Moreover, money would no doubt be contributed in view of the object to be accomplished, provided the Association were incorporated with authority to collect its dues and compelled to pay its debts.

As to State Medicine, the first Board of Health in the United States was established in Massachusetts 1869. Since then, nineteen other State Boards (including that of the District of Columbia) have been established. The speaker then went on to point out the objects of State Medicine. In brief,

State Medicine includes public hygiene, medical education, medical jurisprudence, and the establishment, control and sustentation of public institutions for the sick and infirm. But the only way by which we may reasonably hope to make any decided advance, is first to educate the people in the principles of physiology and sanitary science. Physicians, of course, should enter upon and keep up systematic studies on the subject of public hygiene in order that they may be competent teachers of the people. Only two or three colleges in the Union have special professors of State Medicine. This fact accounts for a great deal of the ignorance in professional ranks concerning health questions. To reach the ear of the profession, Dr. Richardson suggests that a committee of leading sanitarians be appointed by the Association to prepare a somewhat elaborate address to the profession, as well as to the public setting forth the transcendant importance of the subject.

On motion of Prof. White, of Buffalo, the President and his four immediate predecessors were appointed a committee to consider the suggestions in the President's address.

Dr. E. Seguin, of New York, reported as delegate to the International Medical Congress at Geneva in reference to a uniform plan of observation and record. The Congress advocated, among other things, a universal pharmacopœia, to be written in Latin, and the decimal system for weights and measures, and the centigrade scale for temperatures.

Second Day—June 5th.—The Judicial Council dismissed charges brought against Drs. J. M. Keller and W. F. Barr. The Hot Springs and Garland County [Arkansas] Medical Society having lost its recognition by the State Society, forfeits recognition by this Association. As to charges against Dr. E. S. Dunster, a delegate from the Michigan State Medical Society, on the ground that he is a professor in the University of Michigan, in which University there are also two homœopathic chairs, no ordinance exists in the Code of Ethics to prevent his recognition.

Certain Points in the Pathology of Bones, especially Tubercle.—Prof. Henry H. Smith, of Philadelphia, Chairman of the Section on Surgery and Anatomy, alluded to the fact that recently a new function had been assigned to the skeleton, and the bones had been regarded by many as a focus for the origin of red and white corpuscles, and through which diseased matter was introduced into the general circulation. Certain results which followed operations on the bones—such as erysipelas, septicæmia—were doubtless due to impairment

of the blood-forming functions of the myeloid cells in the medullary portion.

It was suggested that the cases of bone and joint disease, which had been reported as due to exanthematous fevers (Gibney), were perhaps cases in which the first departure from health was in the medulla of the bones, and that the exanthemata were symptoms, and not causes.

Passing to the consideration of *Tubercle in Bones*, Dr. Smith gave a *resumé* of the opinions which had been given by Virchow, Rindfleisch, Wilson, Fox, Rodenstein, of Yonkers, N. Y., and others, regarding the character of tubercle, and from those opinions reached the conclusion that tubercle was formed from the blood, through the action of the lymphatic vessels. The conclusions reached by Dr. Smith were—

1. That tubercle was closely connected with the lymphatics, and that it was deposited in the lymphatic vessels in Pott's disease, also in the epiphyses of the long bones as well as in the spongy bones of the ankle-joint.

2. That its development and progress in these localities was the same as when deposited in other tissues.

3. That tubercles affected the vessels and cancellated structure of the bones, and not the ligaments and cartilage.

4. That the destruction of cartilages and ligaments were the effect, and not the cause of impaired nutrition.

5. That softening tubercle produced congestion and inflammation of the bone-cells about the deposit.

6. That perverted myeloid cell action was consequent upon such change, and reacted in the way of modifying the formation of blood-corpuscles.

7. That what was termed scrofulous disease of the bones, was essentially a disturbance of the myeloid cells.

The practical lesson to be derived from such facts was that we should still hold to the teachings of our forefathers, and let constitutional treatment form an important and leading part of the management of the case, and that *mechanical appliances should be secondary.* With reference to Pott's disease, Dr. Smith took the open position that *external violence* had nothing whatever to do with it, but that destruction of the cancellated structure of the vertebra was the result of caseous deposit and evacuation of softened tubercle.

He also believed that hip disease was due to the same cause, and that the cancellated structure was first affected. The treatment of Pott's disease by suspension was at least two hundred years old, and the splint which kept the diseased surfaces in hip disease apart was an admirable instru-

ment; but no matter what the mechanical apparatus might be, it should not supplant a proper tonic and alterative plan of treatment.

The treatment of phthisis, by injecting the cavities in the lungs, had met with some success in the hands of Dr. Pepper, of Philadelphia, and it might yet be a plan of treatment for bone disease to inject the cancellated structure with substances such as phosphoric and lactic acids, etc., which favored the evacuation of the caseous material.

The address was referred to the Section on Surgery.

Intervention of Physicians in Education was the subject of a paper by Dr. Seguin, of New York, read by request by Dr. Frank Hamilton. Imperfections exist in the American public school which did not appear in our old district school. It should be the duty of the physician during vacation to supervise the school, see that everything is clean, that the grounds are drained in the right direction, that lights be kind to the eye, that the books, charts, etc., be duplicated in several types to suit the different conditions of vision, that the desks fit the progressive ages of children, etc. Before entering the school, the general appearance of the pupils should be noted—such as relations of age to size, spinal anomalies, etc. In allotting a child to the class-room, select places suited to the senses of the individual. Many educations have failed because of neglect of the physiological conditions of some mode of perception. For the eye, be guided by the table-tests of accommodation; and for the ear, follow those of Sapolini, of Milano. Myopia and other eye affections of school origin are more than physical disease and infirmity. They have a decided influence on the mode of formation of judgment, which, in a near-sighted, or otherwise ill-sighted people, is biassed by the necessity of looking at things, not as they are, but as they are imagined to be. To stay the progress of myopia, (1) use books whose type correspond to the visual accommodation; (2) have abundant light (coming from the left preferably); and (3) transfer most of the studies, exercises, etc., to the garden schools, summer schools, etc. The physician must also look for differences of muscular contractility, and overcome the habit of not using the left hand when the right hand works or plays—a habit which secures a ticket for later hemiplegia. The paper concluded with an earnest exhortation for the intervention of physicians in education.

Dr. Frank Hamilton, after having read the paper, spoke of the hygienic condition of the public-school rooms in New

York city; all efforts to secure a medical representation in the Board of Education had been unavailing. United action on the part of the profession was necessary to correct the growing evils. He offered the following resolution, which was unanimously adopted:

Resolved, That in the opinion of this Association, medical men ought to have a voice in the construction and location of public school buildings, on the questions as to the age at which children ought to be admitted, the hours of study, and the general management of these institutions; and to this end it is believed to be necessary that one or more intelligent physicians should be placed upon the Boards of Education, Boards of Trustees, and upon other similar Boards having the control of public education and schools.

Causes of Sudden Death in Puerperal Women.—Dr. E. W. Jenks, of Detroit, Chairman of the Section on Obstetrics and Diseases of Women, made this the subject of his address. After reviewing the literature of the subject, he studied it under four heads: 1. Lesions of the Circulatory System. 2. Lesions of the Respiratory System. 3. Lesions of the Nervous System. 4. Puerperal Septicæmia.

The following conclusions were reached: Septicæmia in its most malignant form was one of the chief causes of sudden death in puerperal women, and it was more than probable that small and large emboli were formed by the disorganizing effect which that condition produced upon the white blood-corpuscles.

Of the various valvular lesions of the heart, mitral stenosis was the most dangerous for the pregnant or puerperal woman. The usual mode of sudden death with the valvular lesions was through pulmonary œdema.

Endocarditis, old and recent, was extremely liable to be rekindled in the puerperal condition, result in ulcerative puerperal endocarditis, and give rise to embolism. The practical deduction was that women who had suffered from endocarditis should be discouraged from getting married, lest embolism and sudden death should occur in the puerperal condition.

Endocarditis might result from one of the forms of puerperal fever.

Fatty heart was a possible cause of sudden death in the puerperal woman. Only two cases, however, had been reported, and one was by Dr. Jenks.

Arterial degeneration might cause sudden death in the puerperal woman in two ways: 1. By allowing rupture of the vessel. 2. By favoring the development of thrombosis and embolism.

Arteritis of itself rarely caused sudden death in the puerperal woman.

Phlebitis was a frequent source of sudden death in these cases, terminating in pulmonary obstruction.

The injection of large quantities of air into the veins caused sudden death, but relatively the entrance of air into the veins of the puerperal woman was an infrequent cause of sudden death. The introduction of the hand into the uterus occasionally caused sudden death by facilitating the introduction of air into the veins.

Puerperal eclampsia was a most conspicuous cause of sudden death, but the mortality in that class of cases had been very much decreased by the progress which had been made in treatment.

Tetanus might give rise to sudden death in the puerperal woman.

Every physician should feel bound by professional obligation to thoroughly study the pathological anatomy of any case of sudden death, with the view, if possible, of arriving at the cause of death in any case which came under observation.

There were many other causes, such as ruptured heart, ruptured uterus, apoplexy, profound moral emotion, *post-partum* hæmorrhage, mental excitement, shock, traumatism, etc., which were well recognized, and for that reason their special consideration was omitted.

The address was referred to the Section on Obstetrics.

Third Day—June 6th.—Report of the Judicial Council.—The charges against the Iowa State Medical Society and Scott County Societies, presented by Dr. P. J. Farnsworth, are dismissed because the subject had been already adjudicated by the Council at their meeting in Detroit, Mich., in the year 1874.

In the matter of the Washtanaw County Medical Society, it was decided that the Medical and Surgical Society of Ann Arbor be entitled to two delegates to the present meeting of the American Medical Association.

The report was received and adopted.

Dr. Alfred Post, of New York, moved that the first two on the list from Ann Arbor be received as delegates, the others remaining as members by invitation. Adopted.

The following resolution, offered by Dr. A. N. Bell, of Garden City, was laid over under the rules until next year:

Resolved, That Section IV, on Medical Jurisprudence and Psychology, and Section V, on State Medicine and Public Hygiene, be consolidated in one section as Section IV.

Dr. N. S. Davis, of Chicago, Chairman of the Judicial Council, to which was referred the matter of an amendment to the Code of Ethics, reported the following:

In obedience to the instructions of this Association, the Judicial Council, acting in the capacity of a committee, have unanimously instructed me to report to your honorable body the following amendment and addition to Paragraph 1, Article 1, of the second division of the Code of Ethics, under the general heading "Of the duties of physicians to each other, and to the profession at large," and the special heading, "Duties for the support of professional characters"—the same, when finally adopted, to be added at the end, and to constitute a part of said Paragraph 1, of Article 1. The proposed addition is in these words: "And hence it is considered derogatory to the interests of the public and the honor of the profession for any physician or teacher to aid, in any way, the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

It was ordered, that under the rules the proposed amendment would have to be laid upon the table until the next annual meeting.

Climatic Treatment of Pulmonary Phthisis.—Dr. A. L. Loomis, of New York city, Chairman of the Section on Practice of Medicine, Materia Medica and Physiology, opened his address by making a brief reference to a few of the more important advances made during the past year. With reference to the *germ theory* of disease, it was believed that the facts as now presented did not warrant its acceptance. With reference to the *etiology of typhoid fever*, no new facts had been elicited regarding its spontaneous or specific origin. The experiment of Heidendaim had gone far to establish the fact that *croupous pneumonia had a specific origin*, and could not be excited by simple irritation of the respiratory passages. Reference was made to Lancerot's description of a *new form of diabetes*, due to changes occurring in the pancreas. Reference was also made to several new discoveries made in physiology. Among these, Dr. J. W. S. Arnold, of New York, had demonstrated by a series of experiments that the *first sound of the heart* had a muscular origin. Mention was also made of several comparatively new therapeutic agents, such as jaborandi, hydrobromic acid, thymol, and the alkaloids used as a substitute for formic.

Dr. Loomis then passed to the consideration of the *climatic treatment of pulmonary phthisis*, and continued his remarks by saying:

"It is not my purpose to speak of the advantages or disadvantages of the different localities well-known as homes for phthisical invalids—localities which, during the past ten years, an enormous amount of pamphlet literature has brought to the notice of the profession, as well as before the public. I shall endeavor rather to indicate some of the conditions and considerations which should influence one in coming to a decision in regard to the climate or locality best suited to each phthisical patient who is amenable to climatic treatment.

Before entering upon the discussion of the subject of climate as a therapeutical agent in the treatment of phthisis, it seems necessary to briefly consider those anatomical changes which occur in the lung tissue in the course of this disease. Formerly, every variety of phthisis was believed to be due to a neoplasm called tubercle, which was developed in lung tissue, and afterwards passed through a great variety of changes. At the present day, many believe that there is nothing in these anatomical changes which cannot properly be classed under the head of inflammation. The processes of inflammation, as we now study them, are so numerous and varied that they include all the changes that are found in the lungs of those who die of any form of phthisis. While one class of these changes may be produced by inflammatory changes in the cell element of the lung tissue, another class may be due to an inflammation which results in the production of serum, fibrin and pus. Necrotic and reparative inflammatory processes may give rise to another set of changes in the lung: and a hyperplastic or tubercular inflammation may cause the development of those nodular masses, concerning which recently there has been so much discussion. While I recognize the fact that in many instances it is very difficult to draw the line of distinction between what has been called tubercle, and the changes produced by one or all of these inflammatory processes, I am inclined to the opinion that pulmonary phthisis is no more specific in its character than is chronic interstitial nephritis, and the varying appearances presented by the lungs in those who die of pulmonary phthisis are accounted for by the variations in the type, and in the primary seat of the inflammatory changes, combined with their different stages of evolution.

In one class of cases the primary changes are in the cavities of the alveolæ and bronchi, and are epithelial and cellular in their nature. This class I would include under the head of *catarrhal phthisis.*

In another class of cases the primary changes occur in the

bronchial and areolar connective tissue, and are connective tissue hyperplasias. This class I would include under the head of *fibrous phthisis.*

Again, in another class of cases the primary changes occur in the lymphoid elements of the lung, in which hyperplasia of the lymphoid elements, associated with connective tissue hyperplasia, form little masses or nodules, which are ordinarily termed tubercle. This class I would include under the head of *tubercular phthisis.* These different anatomical changes in the lungs differ so widely and give rise to such varying phenomena in the course of their development, that in order properly to estimate the value of remedial agents, the power of hygienic surroundings, and of climate to prevent or arrest their development, there must be a careful analysis of our cases that we may determine the variety and stage of development of each case which comes under our observation.

In tubercular phthisis, I have never known climate to produce favorable results, while in the other two varieties it has shown such power in arresting and controlling the disease that I have been led to the careful study of those climatic conditions which are able to produce such results. Although we are unacquainted with any climatic conditions which render the development of phthisis a necessity or an impossibility, we do know that there are certain climatic conditions which are antagonistic to its development.

With our present knowledge of the etiology and morbid anatomy of this disease, we must believe that the primary catarrhal processes, as well as the later phthisical developments, depend, to a very great extent, upon atmospheric influences; their mode of action, as yet, we do not fully understand. We cannot even satisfactorily explain "how we take cold." We can only say that among these active atmospheric influences are temperature, humidity, and some atmospheric element as yet undetermined. If one, who is exposed to these influences, has no phthisical tendency, either hereditary or acquired, he has simply a bronchitis or pneumonia; if, on the other hand, he has a phthisical tendency, then these influences produce or lead to those changes in the lung structure which are recognized as phthisical developments. These may be of the character of catarrhal pneumonia or peribronchitis. Taking cold cannot be regarded as the cause—it only awakens the phthisical tendency into activity.

There can be little question but that there are certain atmospheric germs which, when drawn into the lungs on inha-

lation, act in a chemico-local manner. They act not only upon the surface of the mucous membranes, but originate destructive processes in the lung parenchyma. Even when a phthisical constitutional tendency does not exist in an individual, particles of dust will excite inflammation by their continuous mechanical irritation.

This inflammation is not limited in its effects to the mucous membrane and its epithelium, but by penetrating deeper produces destruction in the lung substance, and thus excites processes which end in cicatrization and thickening, or necrosis, and finally developes a condition of phthisis. If this occurs in perfectly healthy individuals, we can readily understand how, under such influences, phthisis will more readily and certainly be developed in one with a constitutional phthisical tendency.

Dampness of the atmosphere depending on dampness of the soil is unquestionably a powerful agent in developing phthisis. If to this is added the inhalation of dust and unwholesome germs, the chances of developing phthisis must be greatly increased.

During the past few years, in our own country and in foreign lands, monographs have been published containing carefully-prepared tables in regard to the temperature range of different health resorts, the amount of rainfall, the degree of atmospheric pressure, the prevailing winds, the altitude, etc. Some localities are mentioned as specially desirable for phthisical invalids on account of their equability of temperature; other places are recommended on account of their luxuriant vegetation or the peculiarity of the soil. Some are thought desirable on account of their dryness of atmosphere; others on account of the humidity of the atmosphere.

Vague and uncertain are the statements found in the literature of this subject, and widely different conclusions have been arrived at by various observers. Places which at one time were the favorite resorts of consumptives, have been abandoned as unhealthful and dangerous. Directly opposite views are held in regard to the therapeutical value of the same resort. An educated physician, who was in the last stage of this disease, and who had vainly tried all climates, expressed what I mean when he said to me, "in attempting to follow the instructions of my New York adviser, and also those of my Philadelphia medical adviser—the one recommending a cold, the other a warm climate—I made the result a failure."

We need not be surprised at all this if we consider what a

revolution has taken place within the past ten or fifteen years in regard to the morbid anatomy and etiology of phthisis; its climatic treatment would necessarily have correspondingly changed, if it were based exclusively on theoretical grounds.

Fifteen years ago the belief prevailed that the essential climatic element for the arrest or cure of phthisis was a warm, dry atmosphere. More recent observations and investigations have settled the fact that phthisis is not necessarily hastened in its development by a low temperature; neither is it prevented or cured by a high temperature. As yet, no one has found the ideal climate for the phthisical invalid. Again, it has been claimed that the higher the altitude the fewer were the cases of phthisis, until at a certain elevation it entirely disappeared, and that this diminution in the number of cases was due to diminished atmospheric pressure. More extended observation has demonstrated that the altitude at which this supposed immunity exists varies with the latitude, that the nearer the approach to the equator the higher must be the altitude in order to accomplish the desired result. This fact seems to prove that the development of phthisis does not depend upon atmospheric pressure, for the laws which govern atmospheric pressure are ever the same at a given altitude.

Elevation was also regarded as the cause of this immunity from phthisis. This theory, however, was disproved from the fact that whenever the inhabitants of elevated regions engaged in manufacturing pursuits which confined them in unwholesome air, phthisis was very frequently developed. Nevertheless, this theory so rapidly grew in favor that a large number of phthisical patients were sent to the mountains. These more markedly improved than those who were sent to the milder regions of the southern lowlands. A new series of investigations soon established the fact that this immunity was not due to altitude, but to the absence of organic matter in the air of these high elevations. It is now well established that organic substances, whether gaseous products of putrefactive processes, or microscopic germs floating in the atmosphere, when they reach the bronchial tubes in the inspired air, are capable of exciting morbid processes, which lead to serious results.

It has also been demonstrated that these organic substances are more numerous in the lower than in the higher strata of the atmosphere, and that they continue to diminish the higher we ascend, until a certain height is reached in mountain ascent when they entirely disappear. If irritation of the

mucous membrane of the respiratory passages is the primary exciting cause, in a large proportion of the cases of phthisis, may not the purity of the air in these elevated regions be the one all important restorative agent? When I speak of the purity of the atmosphere, I mean not only its freedom from what are ordinarily called impurities, but its freedom from atmospheric germs. Prof. Tyndall has shown by actual experiment that the air as we ascend becomes freer and freer from these atmospheric germs. His experiments with the sealed flasks were made to prove or disprove the theory of spontaneous generation, but facts are always the same. Prof. Tyndall also proved by careful experiment that dust laden air is necessary in order to the production of these living organisms, that it has an effect similar to putrid liquid upon a vegetable infusion, differing only in degree, while vegetable infusions exposed for months to optically pure air remain free from infusorial life, and consequently that germs are diffused through the atmosphere, although the air in different localities may be infected in different degrees. In the presence or absence of these organic substances we have a very important element of difference between the air and the low lands and the air of the mountains. That atmospheric germs are much more abundant in cities and large towns has also been plainly shown. Dr. Schreider in his lectures on Climatology states that ozone and rain have the power of purifying the atmosphere, *i. e.*, freeing it from organic substances, that the purifying power of ozone depends upon its oxydizing power; that while oxygen requires a considerable degree of heat before it will combine with other substances, ozone will do so at an ordinary temperature.

Ozone destroys the products of decomposition by chemically combining with them. The presence of ozone in the atmosphere is presumptive evidence that it contains no organic substances. The air of the ocean and high mountains is richer in ozone than that of the plains. As has already been said, ozone purifies the air of a locality by destroying injurious gases, and by oxydizing decomposing organic substances, it also promotes nutrition and blood changes by supplying to the respiratory organs a most active form of oxygen. Therefore when choosing a health resort for phthisical invalids, we should give the preference to a locality in which there is constantly an excess of ozone in the atmosphere, for experience has established the fact that there the climate is especially salubrious.

For some years, pulmonary invalids have been recommend-

ed to take up their abode in the midst of pine forests. It has been known that they did well amid such surroundings, but "why they did well" has been an unanswered question. The more extensive and primitive the evergreen forests, the better adapted is the climate to phthisical invalids. The turpentine exhaled from these pine or hemlock forests possesses to a greater degree than any other known substance the power of converting the oxygen of the atmosphere into ozone, thus rendering the air of these pine forests very pure, and consequently antagonistic to phthisical development. Experiment has shown that the direct inhalation of ozone has little if any power in preventing or arresting phthisical development. We must, therefore, conclude that it is not the action of the ozone upon the respiratory surfaces that renders the climate of localities where it is found in excess especially salubrious, but that by its power of destroying noxious gases and atmospheric germs the atmosphere is rendered so pure that its action is favorable upon the respiratory surfaces of those predisposed to phthisical development.

It has been shown that showers purify the atmosphere. Rain becomes a hygienic agent, as by it the solid particles are carried to the ground, and the atmosphere is freed from carbonic acid and ammonia. I am aware that this statement is in direct opposition to that of those who claim so much for those climatic resorts, where for weeks and months no rain falls. Doubtless long continued rains affect unfavorably a phthisical invalid, but localities where showers are not infrequent, where there is rain-fall sufficient to cleanse the atmosphere, seems best to phthisical invalids. Besides, observation has established the fact that whenever the atmosphere of a locality is dry, there are daily extremes of temperature. During the day, in such places, the sun's heat reaches the earth unimpeded and the maximum temperature is low Hence the difference between the maximum and minimum temperature is greatest where the air is dryest.

Undoubtedly, a damp, warm as well as a damp, cold climate acts unfavorably upon phthisical invalids, but the peculiar dampness which acts unfavorably is not usually present in those localities where there is the greatest amount of rain-fall, nor is it present because large bodies of water are in close proximity, but it mainly depends upon the nature of the soil. To avoid this dampness the soil should be porous and sandy, a loam soil of sufficient porosity to permit the rapid filtering of water from its surface, so that after a heavy rain-fall the surface would soon become dry. All clay soil

drains slowly and imperfectly, and the peculiar dampness rises which acts so unfavorably on phthisical invalids.

Laennec states that the dampness arising from such a condition of soil is one of the most certain developing causes of phthisis, and he makes mention of a locality having such a soil, in which the dampness was so constant and of such a character, that more than two-thirds of the resident population died of phthisis. In determining the fitness of a locality as a residence for phthisical invalids, I have come to regard the external configuration of the soil as of greater importance than the amount of rain-fall, or the relative moisture.

Temperature has always been regarded as of very great importance in the climatic treatment of phthisis. For a long time a warm sedative climate was regarded as the suitable one for phthisical invalids; more recently it has been claimed that a cold climate is the favorable one, and that phthisical mortality decreases as we go northward. An extended clinical experience will lead one to accept both views as correct to some extent.

It is not the mean temperature of a locality which is of such importance in retarding phthisical development, but it is the absence of sudden and frequent changes. Whether a cold or warm climate is indicated in any given case, can be determined only by the experience of the individual prior to the phthisical development. Some are greatly depressed by a cold climate and exhilarated by a warm one; with others, the contrary holds true. There is no evidence that temperature has power to favor or arrest phthisical development.

At the present time, altitude is regarded as of great importance in the climatic treatment of phthisis. While there is no question, but that usually the atmosphere 1,500 or 1,800 feet above sea level is purer, containing fewer atmospheric germs than that of the plains, it is equally true that the atmosphere of very many mountain regions is not thus pure, and does not furnish favorable results in its actions upon phthisical invalids. For example, experience has shown me no place where phthisical invalids in all stages of the disease do worse than among the Catskill Mountains. Without exception, in those phthisical invalids under my observation who have resorted to this mountain range, the disease has made much more rapid progress than in any other locality. I find similar testimony given by other observers in regard to other mountain regions. We must, therefore, come to the conclusion that something besides altitude should be sought for in choosing a health resort for phthisical invalids. Much

has still to be learned by careful observation and experiment as to the exact nature and limit of the influences which seem to act so beneficially in many mountain regions

As great restorative properties have been claimed for sea air as for mountain air. Migration to the sea shore in search of health is an ancient custom; the mountain exodus is of recent date.

Formerly it was claimed that sea and mountain air differed widely, not only in their effects, but in their composition, and that in mountain regions and by the sea are found the extremes of climate influences. Within the past ten years different analyses have been made of the air of both regions, and their similarity in composition is much greater than their difference. Mountain air differs from sea air in that it is less dense, is of lower temperature, and is less humid. It resembles sea air in containing an excess of ozone, in its freedom from organic substances and from other impurities, and in being cooler and subject to less frequent variations in temperature than is the air of island plains. For the most part the study of mountain climate has been merely a series of investigations into the physiological effects of diminished atmospheric pressure on the human organism; but, these effects vary so greatly in different individuals that any attempt to determine the effect of such pressure is very unsatisfactory in its results. It has been proven by experiment that while a slight diminution in atmospheric pressure exerts no marked deleterious effect upon the human organism, a great diminution, say one fourth of the ordinary pressure, gives rise to serious disturbances in nutrition, developing a condition which favors rather than retards phthisical development. While we find equal purity in the air of the mountains and the sea, and that the difference in atmospheric pressure has little to do in determining the beneficial or deleterious effect upon phthisical invalids, clinical experience has demonstrated that while one class is benefited by sea air, another class does badly at the sea, and improves in the mountains.

The question naturally arises, is it possible to determine without a trial of the region, who shall go to the sea and who shall go to the mountains. The experiments of Prof. Beneke seem to prove that tissue changes take place more rapidly on or by the sea than in the mountains. If this is the case, we may readily arrive at the following conclusions: 1st. That individuals in whom the processes of tissue changes do not require hastening, are better in the mountains than on or by the sea. 2d. Persons past middle life, in whom phthisis

has been developed, do better in sea than in mountain air. 3d. Phthisical invalids should not go to the mountains unless they are capable of considerable muscular activity. 4th. As a rule, phthisical individuals with an exhausted nervous system, with an overtaxed brain from excessive mental labor, or an all-absorbing occupation, yet who still retain considerable latent muscular power, will improve in the mountains, while those whose processes of tissue change require hastening or stimulating, they being in too feeble a condition to take active muscular exercise, should go to sea. Sea air is better suited than mountain air to those who cannot bear sudden changes of temperature; while the susceptibility to such changes is greatly lessened by mountain air.

During the past ten years my advice has been given to a large number of persons suffering from pulmonary disease. Under my direction pulmonary invalids have taken up their residence for a longer or shorter time in nearly every well-known health resort on this continent. I have sent but few phthisical invalids to other countries, for within our own boundaries may be found every diversity of climate. From these experiences, without entering into the details of individual cases, I have reached the following conclusions:

First—That we can expect permanent improvement in cases of developed phthisis only after a prolonged residence in the locality which experience has proved to be suited to each individual case. Permanent favorable results cannot be obtained from an annual change of climate.

Second—That cases of *tubercular* phthisis in any stage of the disease grow steadily and rapidly worse in all localities. Such cases do best in the quiet, well ventilated apartments of their own homes, where they can be surrounded by all those influences and circumstances which tend to make a feeble invalid comfortable.

Third—That cases of *fibrous* phthisis in every stage, whether the fibrous process commenced in the pleura or in the bronchial tubes, even after retraction of the chest walls especially in the infra-clavicular region is well marked, and the bronchial dilatations which accompany it give the physical signs of extensive cavities, improve, and often reach a condition of comparative health, when they take up their residences in regions having very high altitude, such as are found in Colorado and in the Rocky Mountain range. The benefit which asthmatic and emphysematous invalids derive in these regions is most marked. I know of no locality where these classes of pulmonary invalids make such rapid and permanent im-

provement. Experience has led me to be very cautious in recommending those regions of high altitude to invalids with catarrhal phthisis. In the advanced stage of this form of phthisis, I have never seen good results from a residence in such regions, and it is quite doubtful whether any one in the first stage has received benefit. It is stated by some of the advocates of the Colorado climate, that by it advanced cases of phthisis are greatly benefited, and often reach a condition of apparent recovery. In these favorable cases I would rather the exact nature of the diseased processes than the physical signs had been given, notwithstanding by some so much importance has been attached to the latter. My own experience leads me to believe that only cases of fibrous phthisis are benefited in regions of very high elevation.

Unquestionably, the majority of cases of pulmonary phthisis are of the catarrhal variety, and it is in giving advice as to the climate and locality best suited to this class that the greatest experience and judgment is to be exercised by the medical adviser. One thing seems certain, that after the stage of softening and excavation is reached by this class, no climate will long delay the fatal issue. It is during the stage of enfeeblement which precedes consolidation, that we may expect permanent improvement and perhaps final recovery.

I have seen only a very limited number of cases of catarrhal phthisis permanently improved by long sea voyages or a residence in a warm climate. A large number in the early stage of this disease, going from a northern to southern winter, are temporarily improved; after the first apparently beneficial effects are passed, the degenerative inflammatory processes go on more rapidly than before. The invalids whom I have found to be most markedly benefited by a sojourn during the winter months in a southern climate are those convalescing from some acute pulmonary affection, in whom the delayed convalescence raises the fear of possible phthisical development, and those in whom acquired or hereditary phthisical tendencies exist, yet there may be no positive physical signs of disease of the lungs. The list of such cases is a long one, and the results obtained are most satisfactory. My favorite resorts for such cases are Aiken, in South Carolina, Palatka, Enterprise and Gainsville, in Florida, and Thomasville, in Georgia. My best results in the stage of consolidation of the catarrhal form of phthisis have been reached in those who have made a prolonged stay (varying from one year to three years), in mountain regions with an elevation of from 1,500 to 2,000 feet. Of such regions the most posi-

tive and permanent beneficial results have been obtained in Asheville, N. C., and in the Adirondack region in this State.

I am led to believe that persons suffering from catarrhal phthisis do not do well at a higher elevation than 2,500 feet, and also that some regions with a much lower elevation afford all the necessary climatic conditions for this class of cases.

The mode of life which those suffering from phthisis should adopt is important. The general direction given is, "Live in the open air," but few of those who give or receive this advice appreciate its full meaning. My own personal experience, as well as my experience in regard to its effect upon others, leads me be believe that a camp life, or a tent life during the warm season in such localities as have already been indicated is of the greatest service in arresting and curing phthisis in those who are not enfeebled. If this kind of life is not practicable, or the invalid's condition renders its hazardous, then spending the day in the open air in pleasurable excursions should be encouraged even in the feeble."

Prof. James P. White, of Buffalo, offered the following which was adopted: *Resolved*, That the President appoint a committee of five members to confer with General Myer upon the subject of making observations as to the existence of ozone in various localities and take such other steps and measures in the matter as may be necessary for the success of the object. Drs. N. S. Davis, J. S. Billings, W. N. Geddings, of S. C., J. M. Toner, of D. C., and S. M. Bemiss, of New Orleans, were appointed.

The following officers for the ensuing year were elected:

President—Dr. Theophilus Parvin, of Indiana.

Vice-Presidents—Drs. A. J. Fuller, Maine; W. F. Westmoreland, Georgia; John Morris, Maryland; John H. Murphy, Minnesota.

Treasurer—Dr. Richard J. Dunglison, Philadelphia.

Librarian—Dr. William Lee, District of Columbia.

Next Meeting—Atlanta, Ga., first Tuesday in May, 1879.

Assistant Secretary—Dr. Scott Todd, Atlanta, Ga.

Committee of Arrangements—Dr. J. P. Logan, chairman, Atlanta, Ga.

Committee on Prize Essays—Drs. Robert Battey, Rome, Ga.; J. G. Westmoreland, Atlanta, Ga.; Henry F. Campbell, Augusta, Ga.; J. H. Van Deman, Chattanooga, Tenn.

Section I.—*Practice of Medicine, Materia Medica and Physiology*—Drs. Thomas F. Rochester, Buffalo, N. Y., Chairman; W. C. Glasgow, St. Louis, Mo., Secretary.

Section II.—*Obstetrics and Diseases of Women and Children*—Drs. E. S. Lewis, New Orleans, Chairman; J. R. Chadwick, Boston, Mass., Secretary.

Section III.—*Surgery and Anatomy*—Drs. Moses Gunn, Illinois, Chairman: J. R. Weist, Indiana, Secretary.

Section IV.—*Medical Jurisprudence, Chemistry and Psychology*—Drs. William M. Compton, Mississippi, Chairman; L. M. Eastman, Maryland, Secretary.

V.—*State Medicine and Public Hygiene*—Drs. John S. Billings, District of Columbia, Chairman; J. T. Reeve, Wisconsin, Secretary.

Judicial Council, to fill a vacancy caused by death—Dr. John P. Gray, Utica, New York.

In place of the seven whose terms expire at this meeting—Drs. D. A. Linthicum, Arkansas; Foster Pratt, Michigan; A. Woodward, Connecticut; J. M. Toner, District of Columbia; J. H. Van Deman, Tennessee; S. N. Benham, Pennsylvania; R. N. Todd, Indiana.

State Medicine and Public Hygiene.—Dr. J. L. Cabell, of the University of Virginia, chairman of the Section, delivered an address, in which he maintained that the establishment of a general Board of Health was the indispensable measure to any systematic effort to inaugurate State medicine in any of the States of the Federal Union.

With reference to the maintenance of the purity of the air within and around dwellings, Dr. Cabell remarked that the evidence of advance in public hygiene consisted not so much in the discovery of new facts or principles, as in more careful, exact and honest methods of sanitary engineering, in conformity with well-known laws of sanitary science. It could scarcely be said that one of the most fruitful sources of the impurity of the air around dwellings, and consequently of the air within dwellings, since the latter was constantly being replaced by the former, was the damp condition of the ground, which, however well drained of subsoil water at first, was liable to subsequent contamination with liquid filth, whether arising from slops thrown upon the surface of yards or gardens, or from the dejections of animals. A soil well aerated by proper water-drainage, would, in a measure at least, oxidize the organic matters, and mitigate the generation of malaria. It would not, however, be safe to rely upon that to disinfect the excrement-sodden soil in the streets of cities, and it becomes an important problem of sanitary engineering how to protect the atmosphere of cities from that source of contamination. That end could probably be secured

by the best asphalt pavements, such as has been largely used in some of the cities of Europe, and had been successfully introduced in some parts of Brooklyn, and on the principle avenues of the national metropolis. No water or filth could penetrate them, and they were easily cleaned at less expense than any other pavement. A necessary condition, however, of the beneficial action of impervious pavements was the absolute freedom of the subsoil from the contamination which might arise from defective sewers, or from percolation of the contents of cesspools.

Reference was then made to what had been accomplished by sanitary measures in preventing the spread of contagious diseases, and from that point Dr. Cabell proceeded to discuss at considerable length the theory of *contagium vivum*.

The address was referred to the Section on State Medicine and Public Hygiene.

Dr. Lewis A. Sayre, of New York, asked that he be recorded as opposed to the resolution adopted last year. He *opposed* the doctrine that fractures could not be treated without shortening.

Fourth Day, June 7th.—The resolutions adopted at the annual meeting, May, 1878, of the Medical Society of the State of Pennsylvania, recommending the use of the metric system and advising students to use it exclusively when they commence practice, were ordered to be recorded.

Dr. Davis offered the following resolution, and the same was adopted:

Resolved, That the Section on Practical Medicine, Materia Medica and Physiology, recommend the appointment by the American Medical Association of a committee of five members, to whom shall be referred so much of the recommendations in the address of the President of that Section as relates to the establishment of proper sanitariums for consumptives, and the more accurate utilizing of the various mineral waters of our country, with instructions to report at the next meeting of the Association.

The Chair announced as the Committee, Drs. H. I. Bowditch, A. N. Bell, J. L. Cabell, S. E. Chaillé, and Charles Denison, Colorado.

The President announced the following delegates: *To European Medical Societies*—Drs. Sims, Drysdale, Seguin, Daly, Halberstadt, Lewis, and W. H. Pancoast. *To the Canadian Medical Association*—Drs. Brodie, Todd, E. N. Burch, and W. Clarke.

The following resolutions were reported from Section IV, and upon the recommendation of that body, adopted:

"*Resolved*, That the personal restraint of the insane is an essential element of the medical treatment of their disease, the cure of which, as a therapeutical agency, may be justified by their insanity, just as the use of it as a police agency, for the prevention of injury to persons or property, is justified by their dangerous conduct.

Resolved, That while none question the necessity for specific statutory provision to regulate the restraint of those insane persons who are wholly or partly a public charge; we maintain that it is the duty of relatives and friends, and it is, also, their natural and inherent right, whether declared or understood by statute, to restrain and to care for their sick or insane relatives as a private patient, at his or their expense, in his or their home, or in a legally recognized and regulated hospital; and that the exercise, by them, of so much restraint as is essential to the proper treatment of his disease, is not a violation of his rights of personal liberty; and that their duty and right to exercise such remedial restraint, are subject to State surveilance or legal limitation only so far as may be necessary to prevent their neglect of the duty, or to punish their abuse of the right."

The following amendment offered a year ago by Dr. C. Scott, of Ohio, and others, was taken from the table and adopted:

"Add to the five existing Sections a Section for Ophthalmology, Otology, and Laryngology, which shall be known and designated as Section VI."

On motion, Dr. Hennan Knapp, of New York, was appointed Chairman of the new section, and Dr. C. Scott, Secretary.

The Committee on State Board of Health report that they have addressed a memorial to the governors of each State where a Board of Health has not been organized. A few executives have courteously acknowledged the communication and expressed their earnest desire to further our efforts.

Three additional State Boards have been organized, making 19 in all, viz: Alabama, California, Colorado, Connecticut, Georgia, Illinois, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, Mississippi, New Jersey, North Carolina, Tennessee, Rhode Island, Virginia and Wisconsin, all of which is respectfully submitted.

Dr. Walter Kempster, of Oshkosh, Wis., chairman of the Section on Medical Jurisprudence, Chemistry and Psychology, in his address, considered the *pathological lesions characteristic of insanity.* The blood vessels were changed in ap-

pearance, the morbid process beginning in the walls of the capillaries. Miliary aneurisms occurred, and as they ruptured speedily became the centres for changes in the brain tissue. The interstitial tissue of the brain was also affected, and changes were also found in the nerve-cells in the way of hypertrophy, atrophy, nucleus becoming diseased. There was also change in the substance of the cell. The cell changes might be so extensive that in the place of nerve-cells there were seen masses of granular material having no relation whatever to the appearance of a normal cell. With reference to the membranes of the brain, Dr. Kempster thought that they were quite uniformly found affected in all cases of insanity, and that there existed adhesions between the membranes and brain, especially over its anterior portions, thus affecting the motor centres. Absence of such adhesions at the posterior part of the brain was a noticeable feature.

The question of localization of functions was discussed at some length, and the cases reported by Charcot, E. C. Seguin and others, were referred to as evidence of the correctness of the doctrine. Reference was also made to the teachings of Brown-Séquard and Schiff in opposition to the theory of localization of functions. Dr. Kempster believed that the weight of accumulative testimony went to show that the localization doctrine was correct.

Reference was made to a case of transient aphasia which had fallen under his observation. It was believed to be due to cerebral anæmia.

Special mention was made of two cases in which convulsions could be produced by pinching the dura with a pair of forceps through an opening made in the skull by a fracture.

In the department of medical jurisprudence nothing had occurred during the past year worthy of special mention, unless it was that Wisconsin lawyers and a judge had recognized the fact that the "knowledge test" was unreliable.

Dr. Kempster expressed the hope that the time would come when the *court* would call expert testimony, if the obscurity of the case seemed to make it necessary..

The address was referred to the Committee on Publication.

The Treasurer, Dr. Richard J. Dunglison, of Philadelphia, reported a balance of $2,446.02 in the treasury.

On motion of Dr. N. S. Davis, an honorarium of $700, was voted the Permanent Secretary.

The successful prize essayist was Dr. John A. Wyeth, of New York city. The paper is an elaborate one, giving an analysis of 789 operations on the carotid artery, and careful

and minute measurements of the artery and its branches in 121 subjects, showing the range of variation and the percentage of the same, followed by inferences, bold and original. Dr. Wyeth also furnishes another paper, as a part of the essay, on the same plan with reference to the innominate and subclavian, being an analysis of 300 cases and the observation of 52 subjects.

Dr. J. M. Keller, of Arkansas, offered the following resolution, action upon which was deferred under the rule for one year.

Resolved, That in future the Committee on Nominations shall present the name of no person for appointment or election to office or position, save on the Committees on Necrology and Climatology, unless the party nominated be in attendance on the Association at the time.

Dr. J. J. Caldwell, of Maryland, offered a resolution creating a new section upon "Neurology and Electrology." Action was deferred for one year.

Dr. Maddox, of Baltimore, Md., offered another resolution creating a section on "Diseases of the Genito-Urinary Organs, including Dermatology and Syphilis."

Dr. J. M. Toner presented *in memoriam* resolutions regarding the late Prof. Joseph Henry of the Smithsonian Institute, which were adopted.

Dr. Davis called up the following amendments proposed by him at the meeting in 1877, and the same were adopted:

Strike out all of third paragraph, Section VIII, "It shall be the duty of every member of this Association, who learns that any existing medical school departs from the published conditions of graduation, to report the fact at the annual meetings; and, on proof of the fact, such school shall be deprived of its representation in this body."

Strike out all of second paragraph, Section IX, "This Association recognizes as a 'regular organized' medical college one that has been represented at any meeting, and that complies with the rules and directions found in the published Transactions, vol. xiii, page 33."

After some routine business, the Association adjourned *sine die*.

PROCEEDINGS OF SECTIONS.

SECTION I.—*Practical Medicine, Materia Medica and Psychology.*—Dr. A. L. Loomis, New York, chairman; Dr. J. V. Shoemaker, Philadelphia, Secretary.

First Day.—Ringworm in Public Institutions was the sub-

ject of a paper by J. V. Shoemaker, in which he referred to the contagium of tinea circinata, and reported experiments establishing, by inoculation, the proof of the existence of an identical disorder among the lower animals, especially cats, from whom it may be communicated to man. Treatment by isolation, absolute cleanliness, and parasiticide applications, was insisted upon.

Dr. F. H. Davis, of Chicago, read a paper on *Pulmonary Tuberculosis*. He held that climatic influence was overrated, and that the real causes were want of exercise, ill-dressing and dampness.

Dr. C. W. Glasgow, of St. Louis, exhibited a specimen of *fibrous cast of the bronchial tubes* from a case of plastic bronchitis. The chairman remarked that such cases are comparatively rare, and the six cases that he had observed showed a decided phthisical tendency, and ultimately they all died of pulmonary consumption. The only curative treatment consists in the influence of climate. Dr. Glasgow was requested to present the subsequent progress of the case at the next meeting.

Second Day.—The paper of Dr. George M. Beard, of New York on the *Electrical Treatment of Impotence and Spermatorrhœa* recommended the introduction of a rheophore into the urethra and the application of the mild constant current, sittings not to continue longer than five minutes. In the subsequent discussion, a preference was shown for general and hygienic treatment, local interference being strongly deprecated in ordinary cases.

The paper of Dr. J. J. Caldwell, of Baltimore, on *The Neuroses of the Pneumogastric and Sympathetic*, was read by Dr. Evans of that city. It referred to certain reflex symptoms produced by tumors pressing upon the nerves in their course, and other sources of irritation. It was referred to a subcommittee for examination.

Third Day.—Dr. Thomas F. Rochester read the history of a case, and exhibited the specimen of *separation of the ileum, with spontaneous occlusion of the divided extremities*. The patient was sixty-five years of age, and life was sustained for several weeks. The ileum was found to be completely occluded, and death was preceded by symptoms of intussusception. The paper was referred to the committee of publication with a request that a cut of the specimen accompany it in the Transactions.

A case of *goitre successfully treated by subcutaneous injection of ergot* was reported by Dr. C. N. Palmer, Lockport, N. Y.

The pathological character of the growth was not clearly ascertained, but it was of large size. One injection only was made. The patient was exhibited to the section with no vestige of the tumor remaining. Drs. T. F. Rochester, of Buffalo, W. R. D. Blackwood and M. O'Hara, of Philadelphia, also reported similiar cases cured or greatly benefited by injections of ergot.

Dr. E. Cutter, of Boston, having on the preceding evening delivered a most interesting lecture, illustrated by the camera, on the *Morphology of the Blood in Syphilis*, his paper, after discussion, was referred to a sub-committee for examination. Dr. Cutter made his observations on fresh syphilitic blood, and declares that in such blood changes occur by which it can be recognized microscopically. The white blood corpuscle becomes enlarged, and contains new features which are considered to be low forms of organic life.

Dr. N. S. Davis, of Chicago, offered a resolution, which was adopted, ordering the appointment of a committee to consider the recommendations contained in the annual address of the chairman in regard to the establishment of sanitaria, and the utilization of the mineral springs of the United States.

Dr. Charles Denison, of Colorado, was requested to furnish for the next meeting a further report on the influence of climate in the treatment of consumption from observations made in Denver City.

SECTION II.—*Obstetrics and Diseases of Women and Children.* Chairman, Dr. E. W. Jencks, of Detroit; Secretary, Dr. H. O. Marcy, of Cambridge, Mass.

First Day.—Dr. Theophilus Parvin, of Indianapolis, read a paper on *Ovotomy*. This essay goes thoroughly into the history of Cæsarean section, and discusses its value with especial view to comparison with the operation of gastro-elytrotomy recommended by Dr. Gaillard Thomas, of New York. He arrives at the conclusion that in cases of labor at term in contracted pelves where a choice of these two operations only remains, the operation by Cæsarean section is to be preferred.

Second Day.—Dr. Horatio R. Storer, of Newport, read a paper on *The Frequently Gynæcological Origin of Inherited Forms of Strumous Disease, and the Consequent Indications for Treatment*, in which he laid down the propositions that struma predisposes to constitutional infection from syphilis, and what passes from struma is ofter the remote out-come of syphilis. The more we try to remove syphilis the greater

chance is afforded of getting rid of struma. He urged greater care in treating the primary lesion, and called for preventive legislation to limit the spread of syphilis.

Dr. T. A. Reamy, of Ohio, read a report of a case of *Hour-Glass Contraction of the Uterus prior to Expulsion of the Child.*

A new *clamp for perineorraphy* was exhibited by S. W. W. Munsen, of New York; the peculiarity being that the "quills" are made of hard rubber containing three or four transverse perforations for the passage of the silver wire. Small posts project from one side of the quill at the level of each aperture, around which the ends of the wire are fastened by two or three turns. The advantages over the old shot fastening are evident. The sutures can be loosened or tightened without trouble, as the posts never roll over into the tissues. The contrivance met with general approval.

Third Day.—The paper of Dr. George J. Engelmann, of St. Louis, entitled **Battey's Operation for Extirpation of the Ovaries**, was not restricted to the consideration of normal ovariotomy, but also quoted cases of cystic and other organic disease. The conclusions were based on forty-one cases, three of which were his own. The vaginal operation for the removal of the ovaries was condemned as being more delicate and difficult than ordinary ovariotomy, and more dangerous according to the statistics. The frequent failure of the vaginal method was thought to be chiefly attributable to the piecemeal and incomplete removal of the ovaries, owing to a pathological condition of the pelvic organs, the disease very frequently being cystic, with many adhesions to the neighboring structures. Thirty-five cases of this operation have been reported, eight only of which are marked cured; although seventy-one per cent. recovered, many are made worse by it. The danger of the disorder appears to bear no relation whatever to the magnitude and severity of the operation designed for its relief. In average cases the dangers of Battey's operation are greater than in ordinary ovariotomy. The removal of a unilocular cyst, which the surgeon is often able to accomplish without introducing his hand into the abdominal cavity, is a much simpler and safer operation. From the fact that the friction of a large cyst against the peritoneum renders it less sensitive and less liable to inflammation after operation, and also from the fact that in the usual operation for ovariotomy the pedicle can be fastened in the womb, the lecturer was led to advocate this operation in preference to the vaginal incision.

Dr. Trenholme, of Montreal, had operated upon two cases for the removal of normal ovaries, and thought that he had originated the operation until he had subsequently heard of Battey's case. In 1874 he had a case of dysmenorrhœa in a woman thirty-five years of age, whose only hope for relief was the menopause. As health was impaired and life in danger, he resolved to remove the ovaries and bring on cessation of the menses. He accordingly removed both of these organs, and in twenty-six days she had perfectly recovered, and was able to go on a journey of one hundred and eighty miles. She occasionally had a slight discharge of blood. She is now well, and studying medicine in Chicago. The second case was one of a displaced ovary, which was enlarged and exquisitely sensitive. This was removed per vaginam, and the patient became entirely well. He prefers the vaginal operation when it can be performed, as the pelvic portion of the peritoneum seems less sensitive.

Dr. Rosebrough, of Canada, reported one case.

The paper of Dr. Levi F. Warner, of Boston, on the *Connection of the Hepatic Functions with Uterine Hyperæmias, Fluxions, Congestions, and Inflammations*, was read by Dr. Storer, of Newport. It was intended to counteract the tendency to treat uterine disorders solely by local applications, and showed the relationship between functional disorders of the liver and certain uterine conditions, which are susceptible of relief by the removal of the predisposing cause without any local treatment. The position assumed by the author met with general approval. Dr. Marcy, of Cambridge, protested against the practice that obtains at many medical colleges of graduating men at once into specialties without first making them general practitioners.

Dr. Marcy exhibited a *new uterine probe*, which is made by Codman & Shurtleff, of Boston, and called an *indicator*. It is of rubber, and contains in its interior a double watch-spring, which is so arranged as to be ordinarily straight, but if one end should be bent the other is curved in the opposite direction. This is designed to show the extent and direction of any curve in the uterine canal while the sound is still in position.

Dr. John C. Irish presented a report of *Fifteen Cases of Extirpation of the Uterus by Laparotomy*, in the practice of Dr. W. Burnham, of Lowell, Mass. The operation was performed for the removal of large intra-mural fibroid growths. The percentage of success in legitimate cases was declared to be 21.5 per cent. Leaving out unfavorable subjects, when it

was a last resort, the operation was followed by 28.6 per cent. of recoveries.

Dr. Storer said that he had performed this operation in seven cases, with two recoveries. He regarded the operation in such instances as one of necessity and not of election.

Digest of Fifty-nine Uterine Fibroids treated by Electrolysis, by Dr. E. Cutter, of Boston, and Dr. Gilman Kimball, of Lowell, operated in August, 1871, on the first case of the series which was cured by three applications. In all there had been fifty-four cases of their own, four in the practice of friends; of these, the total mortality was five patients. In thirty-two the tumor was diminished and the patient relieved; in four the tumor entirely disappeared. Fistulous openings, where the needles were introduced, remained in two cases. In the great majority of the cases the growth was arrested; in about one-third the tumor was materially reduced. The application was made by poles thrust into the tumor through the abdominal wall. Dr. Cutter devised a bayonet-shaped probe with a strong handle, by which it could be introduced into a firm growth. The current was continuous, mild, and of low intensity, the ordinary time of application being from five to ten minutes, never over fifteen. The first sitting should not be longer than three minutes. The operation is a serious one, and the patient should remain in bed for several days subsequently. One of his fatal cases was caused by the woman getting out of bed on the second day, when she caught cold. The operation must by no means be undertaken at the physician's office. No symptoms of shock are noticed when an anæsthetic is used, and it would not be justifiable to operate without using ether. The bladder must be evacuated by the catheter before introducing the needles.

Dr. G. M. Beard, of New York, favored mild currents and short sittings. He recommended that the negative pole only should be inserted into the growth, the other being applied to the uterus by a sponge in the vagina, or applied to the surface of the abdomen.

Dr. Mussey, of Ohio, had good results from applying the negative pole in the vagina and the positive to the abdomen over the tumor.

Dr. Cutter said that in his cases he had used a battery of rather large plates, the zinc in all the cells being connected, and the carbons likewise, so as to obtain quantity and not intensity. Dr. Purse, of New York, had used the same instrument, and had entirely removed by its aid what was apparently a large tumor. He recommends this method as a substitute for all medical treatment of these cases.

SECTION III.—*Surgery and Anatomy.* Chairman, Dr. H. H. Smith, Philadelphia; secretary, Dr. E. T. Easley, Little Rock, Arkansas.

First Day.—Dr. L. Howe, of Buffalo, exhibited a *case of Blepharoplasty* for the relief of a contracting cicatrix of the upper eyelid, resulting from a burn. A piece of skin (two and three-quarters by one and a quarter inches) was dissected from the arm of the patient, a young woman, and applied to fill up the gap produced by an incision and bringing the tarsal edges together. The operation was performed three months before. The graft did not slough, and the wound was healed at the end of two weeks. A great improvement in the appearance of the patient was evident.

Dr. Charles F. Gay, of Buffalo, read a paper on a case of *excision of the diaphysis of the tibia.*

Dr. S. H. Weeks, of Portland, Maine, presented an article on *Septicæmia following Resection of Bones.* Considerable discussion followed in regard to the meaning of the term pyæmia. Dr. Woodward, in referring to the author's definitions, inquired whether they were based on personal observation; he had seen blood-poisoning without the existence of pus, but had never, himself, seen pus in the blood or encountered any one who had seen it.

Dr. Henry A. Martin read a description of his operation for the performance of *Tracheotomy without the Use of Tubes.* He advocates, after ordinary incision has been made into the trachea, the insertion of a silk thread through the tissue on each side about one-eighth of an inch from the edges of the wound, the ends being tied so as to form a loop on each side of the neck. Through these loops, which should not be tied too tight or they will cut through, the end of a long piece of adhesive plaster is passed and fastened. Very gentle traction is made to open the wound slightly, and the plaster is carried around the side of the neck crossing on the back. The stitches will stay in position from two to three weeks if undisturbed. The ordinary precautions as to warmth and moisture must be observed after the operation. He reported nine cases in which it was performed, and highly recommended the operation.

The *Identity of Hospital Gangrene and Diphtheria* was the titled of an exhaustive paper by Dr. John T. Carpenter, of Pottsville, Penn. He argued the identity from the following facts:

1. In their causation—By an atmospheric contagion, becoming epidemic under suitable circumstances.

2. In the interchangeableness of their miasm—Either disease is capable of propagating the other.

3. In their pathological features—Exudations, ulcerations, mortifications, hæmorrhage, erysipelas and general blood-poisoning.

4. In the double form of each disease—Simple, catarrhal or pulpy and malignant ulceration or phagedenic.

5. In the local infection as being preliminary to the general inspection in such disease.

6. In the parallel methods of cure and in the identical remedies used with success in both diseases.

7. In the similar modes of death and particularly the comparative frequency of heart clot in both diseases.

A paper on *Perityphlitic Abscess*, by Dr. D. M. Clay, Shreveport, La., was read by title, the writer being absent.

Dr. Sayre, of New York, read an abstract of one hundred and twenty-five cases of *spondylitis treated with the plaster-of-Paris* jacket and suspension, recent and long-standing, and ranging from four years of age to fifty-three. The author requested permission to complete the paper and present it at the next meeting. He observed that if after application the jacket should get a little loose, it may be cut down the middle in front, and a portion trimmed off, the edges of the under-shirt being turned over in front and holes made through the border for lacing.

Dr. E. M. Moore, of Rochester, read a volunteer paper on the *Prevention of Septicæmia in Surgery;* the theory being that if an absorbing surface is not furnished with decomposing fluids septicæmia cannot occur. He reported a case of injury of the knee, in which free discharge was secured by the introduction of drainage tubes, in anticipation of the appearance of the purulent fluids.

Second Day.—Dr. Henry H. Smith, of Philadelphia, gave a demonstration, from preparations, of certain points in the pathology of the bones, especially tubercular disease.

Extirpation of the Thyroid Gland was the title of a paper, illustrated by a specimen, presented by Dr. Julius F. Miner, of Buffalo. He did not declare positively that the entire gland had been removed in the case reported. In answer to a question, he stated that the vessels were tied after division. He held that if all other means fail, some goitrous tumors may be extirpated with reasonable hope of success.

Dr. B. A. Watson, of Jersey City, read a paper on *Disease Germs*, considering their origin, nature, and relation to wounds.

The conclusions drawn by Dr. Watson were:

First. That there are certain germs in the air, more par-

ticularly in the atmosphere of overcrowded hospitals, which, if permitted to enter wounds, give rise directly to living organisms, and inflammatory suppuration; and indirectly to all septic conditions which are found as wound complications.

Second. That the successful management of wounds depends principally on the ability of the surgeon to keep the wounds under all circumstances and at all times free from germs and living organisms; and, therefore the value of any method of wound treatment depends primarily on the degree of antisepsis which can be obtained by it.

Third. That the occasional discovery of a few bacteria in a wound, which has been treated antiseptically, does not disprove the fact that these bacteria arise from germ; but may be satisfactorily explained in a variety of ways, especially by the existence of germs which have not been destroyed by the means employed.

The Process and Repair of Wounds with and without antiseptic treatment was the subject presented by Dr. Frederick Hyde, of Cortland, New York. He endorsed the use of the antiseptic treatment so far as it proved itself, though he did not regard it as being fully established at the present time. As to what treatment should be adopted, "First it should aim to protect the purity of the primary exudation, that it may become as soon as possible fibro-cellular-tissue; and maintain its just relations to the sundered, injured textures, that its advancing development may not be hindered, but on the contrary, made as summary as possible.

Dr. Robert Burns, of Philadelphia, gave the history of a case illustrating *Conservative Surgery in Compound Fractures.* The patient, a laboring man, sustained a compound fracture of both the humerus and ulna, the bones being broken in four places and protruding. A wire splint was used and an antiseptic evaporating lotion with excellent effect, the patient regaining the use of the arm.

Third Day.—Dr. Frank H. Hamilton, of New York, read a paper recommending exsection of the metatarso-phalangeal articulation in valgus of the great toe. He particularly urged the value of the warm water treatment of wounds.

The following offered by Dr. Gunn, of Chicago, was adopted:

Whereas, This section having expressed an opinion upon the results of fracture of long bones, and

Whereas, In general convention a member has asked and been accorded the privilege of recording his protesting vote, therefore

Resolved, That this section re-affirms its opinion that shortening in cases of fracture of the long bones is the rule in practice regardless of any means of treatment now in use.

Fractures near the Wrist Joint, were considered by Dr. John H. Packard, of Philadelphia, with special reference to their treatment. He concluded that fractures of the lower end of the radius are produced by leverage, comminution resulting from a driving in of the upper fragment into the lower, and the posterior part of the lower fragment being always involved in the comminution. He reviewed the testimony of experiments, dissections, and clinical observation in endeavoring to establish the exact character of the lesions, and failed to agree with the view of Dr. Barton. He had never seen a true Barton fracture. The principles of treatment vary somewhat with each case; routine treatment by any one method is deprecated; the principles are: (1) thorough reduction; (2) support of fragments; (3) early passive motion; (4) early freedom of hand.

Dr. E. M. Moore, of Rochester, opposed the views expressed by Dr. Packard, and said that splints should be abandoned in treating this fracture, and adhesive plaster used.

Section IV.—*Medical Jurisprudence, Chemistry and Psychology.* Chairman, Dr. W. B. Kempster, Wisconsin; secretary, Dr. W. Compton, Michigan.

First Day.—Nothing done.

Second Day.—The chairman read a paper *On the Pathological States found in the Motor Centres in Cases of General Paresis.* The conditions had been rare in his experience as superintendent of the Mississippi State Lunatic Asylum,* presenting themselves most frequently among agriculturalists. The observations seemed to favor the theory of the localization of motor centres in the convolutions. Dr. Gray, of Utica, observed that this general paresis had been considered rare, because it had generally escaped recognition prior to 1843, but that now it is quite common. It is not restricted to either sex.

Third Day.—Theodore Deecke, of the Utica Insane Asylum, read a paper by invitation on the *Microscopic Study of Brain Disease.*

Section V.—*State Medical and Public Hygiene.* Chairman, Prof. J. L. Cabell, University of Virginia; secretary, Dr. A. N. Bell, of New York.

First Day.—Professor Henry I. Bowditch read a paper of

*This remark, attributed in the *Boston Medical and Surgical Journal* to Dr. Kempster, evidently emanated from Dr. Compton.—Editor.

great interest, containing Studies of an Epidemic of Diphtheria which prevailed at Ferrisburg (adjacent to Vergennes), Vermont, during the summer of 1877. The lecture was illustrated by a large map of the infected locality, showing the homesteads attacked. The study was made during a summer vacation near Lake Champlain, and is a valuable contribution to the natural history of the disease. No abstract can do justice to this paper, but the sum total of the suggestions is given by the lecturer as follows: "An epidemic or a single case of diphtheria must be met very much as you would meet a case of small-pox or scarlatina, and we must try by every means in our power to limit its influence and prevent its spead as an epidemic. I do not mean to intimate that I think diphtheria is equally contagious with small-pox, but as there is a strong analogy between them, like means must be used to prevent their spread."

Remarks were made by Drs. Bell and Jacobi, of New York, and others. Dr. Hollister had traced cases of diphtheria in Chicago to defective sewerage. In reply to a question, Professor Bowditch stated that in diphtheria the general disorder exists before the appearance of the false membrane. His impression is that croup and diphtheria are not identical; croup is an accident in diphtheria.

Richmond Academy of Medicine.

(Reported by Dr. Charles S. Brittan, Secretary.)

March 19th. **Alimentation and Medication per Rectum.** Dr. F. B. Watkins frequently used the rectum as the channel for introduction of food and medicine. But if these are here absorbed, why may not the fæces be likewise absorbed when there is an accumulation in the lower bowel? He has given calomel mixed with starch by enema, and the next morning has seen as a result a "bilious" action.

Dr. L. S. Joynes said the veins absorb medicines, and the lymphatics absorb food. There are no villi in the large intestine as in the small; nor are there the same digestive secretions as in the stomach and small intestines. Hence the much slower absorption of food by the rectum. But it must be remembered starch is converted into glucose in the rectum. This may be called a digestive action, but it is of the simplest kind. No doubt nutriment injected per rectum is absorbed in an unchanged state; hence the necessity of injecting only such food as is already in a digestible form, and does not need a further digestive change.

Dr. J. S. Wellford thinks that the fæces, being waste matter, are not absorbable. Injections should be thrown beyond the rectum to get the greatest benefit of absorptive action. In regard to chloral, he has noticed that that rectal dose need not be more than the dose *per orem;* but he knows of no other exception to the rule that the rectal doses should be from one and a half to three times as much as the usual dose *per orem.*

Dr. W. W. Parker had nourished a child for five days by giving an egg per rectum after each bowel action. To retain an injection, the patient should be put upon the back with legs extended. The action of the glutei muscles considerably aid the constricting power of the anus.

Dr. M. L. James said he has often found the rectum so sensitive as to the retention of any fluid that on several occasions, by means of a tube passed beyond the sigmoid flexion of the gut, he has passed injections beyond the ileo-cæcal valve into the small intestines, where the enema was more apt to be retained and absorbed.

Dr. Parker did not think it possible to so inject fluids into the large intestine as to pass into the small.

Dr. L. B. Edwards said Dr. Robert Battey has proven the perviousness of the entire alimentary canal from the rectum by passing an injection, introduced per rectum, out of the mouth.

April 2d. **Eversion of the Rectum by Pressure per Vaginam.**—Dr. O. Fairfax said he had lately read of a new method for everting the rectum—useful in examining for fissures, fistulæ, etc., in the female. It consisted in placing the fingers high up in the vagina and pressing steadily downward towards the anus.

Dr. J. S. D. Cullen said this was not a new method. Dr. Storer, formerly of Boston, had called attention to it years ago. Dr. Cullen has himself made frequent use of the method. At least three inches of the rectum may be thus everted and exposed for examination and operation.

May 7th. **Miner's Phthisis.**—Dr. E. T. Robinson reported the case of a man who had been working in the coal mines up to four years ago, when he had to "leave off" on account of pneumonia. Ever since then, he has had exacerbations of miner's phthisis, each attack being very prostrating and lasting about ten or fifteen days. The lungs, on examination, were a little duller than normal, and no cavities could be diagnosed.

During the exacerbations, he expectorated about a quart *per diem* of black viscid sputa. During the intervals, the

sputa was perfectly clear. The carbonaceous sputa had no odor, but stains linen after passing it through filtering paper.

Dr. L. S. Joynes said that Dr. Hughes Bennett, in his *Clinical Medicine*, had given an admirable account of miner's phthisis. He reported the case of a woman who did not have the black sputa until twenty-six years after leaving the mines; also the case of a girl who left the mines to marry, and twenty-six years afterwards commenced to expectorate this black sputa. The disease resembles in its symptoms tubercular consumption, but no tubercles are developed and no cavities formed. The black carbonaceous matter of the mines is inhaled and deposited in the lung cavities, where it remains dormant until some further irritating cause displaces it with the secretions.

Dr. Robinson said that in two autopsies made by Keller, he found in the lungs this carbonaceous matter in lumps so hard that a knife could hardly be forced through it. Other places softened and filled with tarry matter, and there were numerous pleuritic effusions.

Dr. O. Fairfax had seen matter just as black in external melanotic cancer. He did not think it possible for the carbonaceous matter inhaled years ago to remain in the lungs so long, especially when the expectoration was so great. The whole pleural cavity, with the viscera removed, could not contain so much coal dust.

May 21st. A vote of thanks was given the Secretary for presenting a number of the preparations of Messrs. B. Keith & Co., New York.

Anomalous Case of Pneumonia.—Dr. M. L. James reported the case of Dr. L. B. Edwards, whom he first saw a little more than two weeks ago—Dr. O. F. Manson attending with him. They found Dr. Edwards with a pulse of 120, but feeble; respiration frequent, but panting on exertion; cough almost incessant; temperature 104.5° F; slight delirium. He had had, the night before, a violent ague, preceded for several alternate days by chilly sensations, with febrile movement of decided character, and cough. He had been working very hard professionally for several weeks previous, and attending to his editorial labors until unreasonable hours at night in a basement office. A very serious amount of nervous prostration complicated the case—so great, indeed, that both attendants regarded the case at first with the gravest apprehension. Dr. James stated that a physical examination showed a condition, which he had occasionally seen, of a fugitive tendency in the initial pulmonary congestion pre-

ceding pneumonia—such as is sometimes observed in erythema and erysipelas.

At this first examination, congestion of the upper lobe of the *left* lung was shown by the very decided rudeness of respiration at that point, while at a point in the mammary region near the left margin of the heart, a distinct pleural friction râle of a circumscribed extent was heard. Twenty grains of quinine with ten of calomel were given, followed by fifteen grains more of quinine at night. Under the influence of these remedies, the temperature declined, the cough diminished, the respiration became more tranquil, and the physical signs of congestion of the left lung, and the friction râle nearly disappeared.

The following morning, decided rudeness of respiration was heard over the whole *right* lung. The use of the quinia (without the calomel) in very much the same manner, but in somewhat diminished doses, was continued for several days, being attended always by some decline of temperature and improvement of the general symptoms. In the course of two or three days, all traces of trouble had disappeared from the left lung, but absolute flatness of percussion, and very marked bronchial respiration, and broncophony showed complete consolidation of the right lung. It did not, as usually occurs, commence with one lobe and progressively extend, but invaded every portion of the lung at once—consolidation becoming absolutely complete in the entire organ at the same time.

The crepitant râle was at no time heard in this case. Dr. Edwards has for many years been a subject of acute rheumatism, the presence of which diathesis occasions probably the most frequent condition when this râle is absent, though in his present attack, there have been no manifestations of rheumatic trouble.

The temperature, during the period of consolidation, has ranged from 103 to 104, with a decline of one or two degrees in the morning. The absence of effusion, at least in any considerable amount, was shown by the very marked broncophony and exaggerated trocal fremitus.

About the end of the first week, iodide of potassium and digitalis was used for a day or two without decided benefit. This was substituted by the free use of muriate of ammonia, under the influence of which (with quinine) he has advanced to a distinct convalescence, and now the lung is undergoing a very satisfactory resolution, with, however, nothing of the *crepitans pedux*.

After the first three days, notwithstanding the evidence of the most complete consolidation, and an average axillary temperature of 103° to 104° F., the pulse never exceeded a frequency of 78, very rarely that of 70; the respiration, except upon exertion, did not exceed twenty; there was no cough, no pain, no expectoration, no anorexia, no headache nor delirium, no increase of the superficial temperature cognizable by the senses, the bowels were regular, and there was perfect integrity of the intellectual faculties, and, as already remarked, entire absence of the crepitant râle throughout the case. The case afforded an impressive example of the importance of physical signs in diagnosis.

Dr. James said that Dr. Manson, one of the best authorities on fever in this country, regards the case an instance of an anomalous expression of typhoid fever.

[NOTE.—*June 30th.* This full report is admitted in part as an answer to many personal letters to the editor, which he appreciates highly, but regrets he has not the time to answer in person. Under the attentive and skilled treatment of his physicians, named above, he has been restored to perfect health.]

June 4th. **Bone Growing in Eye.**—Dr. Hugh M. Taylor exhibited an eye which had been extirpated because of sympathetic ophthalmia. In the centre of the eye there was a piece of bone which very much resembled an ossified lens. This piece of bone had been driven into the eye during the war. Pathologically it is of interest, because the piece of bone, accidentally transplanted from the supra-orbital ridge, became adherent to the collapsed membranes of the eye, and grew from three points of ossific development. Its increasing size was doubtless the cause of the sympathetic ophthalmia.

Hæmaturia Complicating Mumps.—Dr. R. T. Coleman reported the case of a patient who was convalescing from mumps, when he imprudently exposed himself. The parotiditis returned, and was this time attended with profuse hæmaturia. The patient was greatly prostrated, had high fever for two weeks, and intensely painful swelling of the parotids. The parotiditis he treated with local applications of iodine and stramonium ointment; and for the hæmaturia, he made the patient drink freely of Ponce de Leon water (from springs near Atlanta, Ga.), and he administered veratria to reduce the pulse. He also gave ten drops of muriated tincture of iron and two grains of quinia every four hours. Under this treatment, the swelling in the neck subsided, and the hæmaturia disappeared. During the attack, there was

excessive pain in the back along the supposed course of the ureters. Was the hæmaturia a coincidence, or a metastasis of the mumps? He had never before seen a case of metastasis of the kidneys, if this should be considered a case.

June 18th. **Lime Water and Milk Compatible with Calomel.** Dr. L. S. Joynes called attention to the reaction between calomel and lime water, as modified by the admixture of the latter with milk.

He had seen a statement by Dr. E. N. Chapman, of Brooklyn, who is a strong advocate for the addition of lime water to milk in the artificial feeding of children, as well as in different affections of women, that the emulsion formed by milk with lime water is much more perfect than that formed with any of the alkalies proper—that it "is not disturbed by citric or hydrochloric acid, *nor is a black precipitate thrown down by calomel*"—"that the affinity of calomel and other chemicals for lime is less than that of cream, whereby the special effect of medicine is not impaired." The preferable proportion of lime water to milk, according to this gentleman, is generally one part to six.

As we often prescribe calomel in cholera infantum and other affections of children and of adults, at the same time that it is desirable to give lime water and milk for the sake of their effect in allaying irritability of the stomach, Dr. Joynes thought it a matter of practical interest to determine whether we could employ these two remedies simultaneously without the risk of the decomposition of the calomel and the precipitation of the black oxide of mercury—without *the formation*, in a word, of *black wash in the stomach of the patient.* He had, in fact, been sometimes deterred from allowing lime water and milk to patients who were taking calomel, for fear of such a result. He had, therefore, determined to test for himself, by experiment, the correctness of Dr. Chapman's statement.

The result had been that when lime water was mixed with milk in the proportion of one part to six, as advised by Dr. Chapman, and calomel then agitated with the mixture, no apparent decomposition of the latter ensues, even after the lapse of several hours; nor is any such effect evident, at least to the eye, when the proportions of lime water and milk are one to four, or even one to two. But when mixed in equal parts, the reduction of the calomel to black oxide was evident enough and took place in a very short time.

It would seem, therefore, that we need not apprehend the decomposition of our calomel by lime water and milk, unless there be more than one part of lime water to two of milk.

Analyses, Selections, &c.

Cholécystotomy in Dropsy of the Gall-Bladder.—Dr. J. Marion Sims details (*Brit. Med. Jour.*, June 8th, 1878,) the case of a married lady, aged 45, who has had only one child, now 19 years old, and had change of life two years ago, and then weighing 160 pounds, upon whom he performed (April 18th, 1878,) cholécystotomy because of dropsy of the gall-bladder. Her health failed early in 1877. In November, she became suddenly jaundiced. In two or three days, the jaundice was a deep mahogany color. Langor and debility, but no pain. The jaundice deepened in color, and did not yield to usual remedies. About January 1st, 1878, some unnatural swelling about the lower border of the liver was discovered. A week later, she had a sudden discharge of clear, uncoagulated blood from the rectum, which was preceded by griping pain about the umbilicus. Astringent injections failing of good, perchloride of iron controlled the bleeding. Four days later, hæmorrhage recurred even more profusely, but was again controlled by iron. About a week after the jaundice set in, she had intense itching and burning of almost all parts of the skin, always worse in evening, and also lancinating pains darted through the joints. The itching did not yield to remedies. Hyperæsthesia of skin also marked. The hepatic swelling increased, and then began a constant, aching pain, and weight in the tumor, extending back to the right lumbar region, with occasional pain under the right shoulder-blade. Almost daily vomiting set in. Stools clay-colored, except when bloody; odor very offensive. Food could not be taken in sufficient quantity. The patient became emaciated; urine always scanty, intensely high-colored, and gave a bile tinge to the sides of the vessel.

On March 30th, when Dr. Sims first saw her with Dr. Bremond, the attending physician, the tumor, which was continuous with the liver, filled up the right hypochondrium, reaching far below the umbilicus. The tumor was oblong, rounded and slightly movable laterally; it was hard and sensitive to the touch. The tension was so great as to mask fluctuation. Aspiration evacuated thirty-two ounces of a dark brown fluid, which, upon analysis, contained neither bile nor hydatid hooks. Symptoms were greatly relieved by the aspiration for a few days; but then all the symptoms became worse. By the end of a fortnight, the tumor was almost as large as before the puncture. It was more sensitive than ever before. Indeed all of her symptoms were worse,

and it was evident that speedy death was inevitable if nothing was done. Hence, on April 13th, cholécystotomy was performed.

Dr. Sims was assisted by Drs. Hayden, Bremond and Pratt. The operation was performed under proper antiseptic precautions, with carbolic acid spray and carbolic lotions for hand, sponges and instruments. An incision, three inches long, beginning an inch above the level of the umbilicus, and parallel with the linea alba, was made over the most prominent part of the tumor, about three inches to the right of the umbilicus. The peritoneum was not opened until all bleeding had been controlled. When the peritoneum was opened, six or eight ounces of pinkish serum were discharged. No adhesions were detected. A Dieulafoy's trocar of the largest size was thrust into the tumor, and twenty-four ounces of a dark-brown fluid were withdrawn. As soon as the cyst was emptied, it was hooked up with a tenaculum, and pulled to the outer edge of the incision, where it was seized with forceps and drawn out for about two inches. It was there held while each of the physicians thoroughly explored the sac, and became satisfied that it was the gall-bladder. The gall-bladder was then incised, with scissors, to the extent of about two inches, aad was thoroughly cleaned out with sponge-probangs passed to the bottom of the sac, which, on measurement, was found to be eight inches deep. At first, there were removed about two inches of a dark-brown fluid, much thicker (containing more mucus) than that already drawn off; and then there were drawn out with the probang a half-dozen or more gall-stones. One probang after another was then passed in, and swept around, till sixty gall-stones were removed.

Having emptied the gall-bladder, it now only remained to secure its open border to the upper angle of the abdominal incision to insure a fistulous outlet. As it was already drawn out through the incision to a considerable extent, I resolved to amputate the projecting portion, which was a mistake. Its walls were greatly thickened, and bled when cut, so as to require the use of several artery forceps The puckered mouth of the amputated cyst was then crowded into the upper angle of the abdominal incision, and there secured with eight fine carbolized silk sutures, taking good care to pass each suture through the whole thickness of the abdominal walls, including the peritoneum. After this process was finished, we waited several minutes with small carbolized sponges (on probangs) resting just within the cavity of the peritoneum, to be sure that there was no bleeding from the needle-punctures. When we were satisfied on this point, the

lower portion of the abdominal incision was closed with fine carbolized silk sutures, including the peritoneum. The whole wound was then covered with some cotton wool saturated with carbolized oil, over which was placed a large compress of fine cotton wool secured with adhesive strips and a flannel binder. When the wound was closed, there still remained a considerable quantity of pinkish serum in the peritoneal cavity, such as I formerly thought to justify the use of a drainage-tube. But the experience of Bantock and Thornton at the Samaritan Hospital proves pretty conclusively that drainage is not always necessary under Listerism, because it prevents putrefaction, and the reddish serum is absorbed without producing septic symptoms.

Up to the seventh day, the symptoms seemed to indicate a successful result. The wound healed. There was no itching; she slept well; she was bright and cheerful; her pulse and skin were natural; she felt stronger; she had a natural stool, etc. But on the fifth day, blood began to ooze from the gums and tongue, which increased on the sixth day, and continued on the seventh, notwithstanding the hypodermic use of ergot and dialyzed iron. On the sixth day, oozing of blood also began from the edges of the gall-bladder. This hæmorrhagic condition continuing, led Dr. Sims to apprehend death from black vomit. On the eighth day, black vomit, like that of yellow fever, commenced and she died that afternoon.

After the necropsy, which showed that the wound was healed, that no peritonitis had occurred, and that a fistulous trace was established, as was intended, Dr. E. Chambard, Interné des Hôpitaux, Répériteur au Collége de France, made a microscopical chemical examination of the gall-bladder and its contents. A few gall-stones were removed which were not found during the operation, because they were sacculated. The fluid in the gall-bladder contained neither hydatid hooks nor bile. Death occurred, as it usually does in all such cases depending upon total occlusion of the bile ducts, from transudation of blood from the mucous surfaces, *i. e.*, from passive internal hæmorrhages, the result of the poisonous effects of the biliary salts on the blood.

Dr. Sims thinks this operation unique, and justifiable because it imitates the process adopted by nature in all cases in which recovery takes place. Death is absolutely certain in every case where the gall-ducts are mechanically obstructed, unless an outlet be obtained. It is not necessary, on the one hand, to wait on the tedious efforts of nature until changes are effected in the blood by the bile acids which lead to its

extravasation from the mucous membrane, nor resort to the clumsy process of caustics on the other; but do not delay a day after the diagnosis is fully made. Dieulafoy's aspirator renders the diagnosis certain, and anticepticism renders the operation of cutting down to the dropsical gall-bladder and establishing a fistulous opening quite as safe as to leave it to the slower process of nature.

"Given a case of persistent jaundice, with clay-colored stools, nausea and itching, we may almost certainly infer that there is mechanical obstruction of the ducts of the gall-bladder. Why, then, should we wait for months for the gall-bladder to become dropsical, and to swell up into an enormous tumor, filling the right hypochondrium, and extending even to the iliac region.

"I would perform the operation precisely as I did, except in this particular. I would not remove any portion of the gall-bladder; I would draw the gall-bladder, after emptying it, to the surface, open it longitudinally with scissors for an inch or two, seize each side of the incised part with spring-forceps, hold it firmly, then clear it out with sponge-probangs, as I did in this case, or throw in a stream of carbolized warm water through a gum-elastic catheter introduced to the deepest part of the cyst. By this means, I would expect to remove the gall-stones by the returning force of the injection with greater ease and with less manipulation than by the sponge-probangs. It is a mistake to pull the gall-bladder through the abdominal incision and amputate any portion of it, because it will be found much thickened, and the removal of a segment of it leaves a large opening to be crowded up into the superior angle of the incision, there to be secured by sutures. It will answer a better purpose simply to incise the gall-bladder, as before said, than to remove any portion of it.

"The great lesson that this case teaches is this: In dropsy of the gall-bladder, in hydatid tumors of the liver, in suspected abscess of the liver, and in gall-stones, we should not wait till the patient's strength is exhausted, or till the blood becomes bile-poisoned, producing hæmorrhages, but we should make an early exploratory incision, ascertain the true nature of the disease, and then carry out the surgical treatment that the necessities of the case may demand. If this should be done under antiseptic precautions, I am sure that much suffering will be relieved, and many valuable lives saved that would otherwise be lost. Without Listerism, the operations I here propose would be hazardous; with it, I believe them not only feasible, but perfectly justifiable."

Editorial.

The Telescopophone is an instrument invented by Edison —a form of trumpet for conveying sounds of moderate intensity to twenty times the distance at which they can be heard with the unaided ear. The *mierophone* is also an English invention (Mr. Hughes), which magnifies minute sounds to an almost unlimited degree. These instruments, as also the telephone, are already being applied to diagnosis in medicine, and are likely to revolutionize the whole science of physical diagnosis.

We would call attention of our readers to the letter from Dr. Taylor in this number regarding the use to which the Bell telephone has been put at Dr. Hunter McGuire's suggestion. It is but proper to add that this investigation was made before any notice had appeared on this side of the Atlantic of the use of the microphone by Sir Henry Thompson. Having, as yet, seen no date given to Sir Henry's trial, we are not sure but that the priority claim of use may yet belong to one of our surgeons.

While speaking of these things, it is but due to Dr. M. L. James, Lecturer on the Practice of Medicine in the Medical College of Virginia, to say, as is known to many physicians in this city, that he conceived the importance of an instrument for magnifying sounds, and has been laboring with the physicists within his reach to induce them to construct such an instrument, and has recently been making some personal efforts to devise such an instrument.

The American Medical Association, at its recent session in Buffalo, was handsomely entertained by the profession and citizens of that prosperous city. How many thousands of dollars were expended in the aggregate for these several entertainments we do not know, but enough to embarrass those delegates from less wealthy sections in issuing invitations for subsequent meetings of the Association. But it is not alone at Buffalo that so much was expended for the purely social feature of the meeting. These entertainments have become, by custom, established parts of the programme of the annual sessions. It is the expense of travelling even to the place of meeting that prevents many from attending these annual sessions. In no other way can it be accounted for that so few were present at Buffalo from the Southern and some of the Western States. It is an unreasonable sac-

rifice for those thus deterred from even attending the sessions to attempt to offer such costly entertainments as have been elsewhere given. If some check is not given to this form of rivalry, the national body will sooner or later find itself representing only a sectional portion of the American profession.

We would not be understood as opposed to the social feature of these annual sessions. On the contrary, such hospitalities are often the impelling cause of attendance. We only argue against the unfortunate rivalry between certain cities—to give this year a little more costly entertainment than was given last year. Some steps should be taken to change the annual programme in the matter spoken of.

In looking over the proceedings of the Association at Buffalo, we regret to see also a disposition to exclusiveness that we had hoped would grow less with each recurring year. A resolution was introduced which, if carried out, absolutely surrenders a State University into the hands of the homœopaths. An effort was made to exclude the delegation from the Michigan State Medical Society for sending as a delegate Dr. E. S. Denster, Professor of Obstetrics, etc., in the *regular* medical school of the University of Michigan. Fortunately for the good of the Association, no clause could be found to apply to the case in hand; but the fanaticism which pervaded the meeting caused the Judicial Council to report the following amendment to the already, in many respects, unequal and oppressive Code of Ethics: "It is derogatory to the interest of the public, and the honor of the profession, for any physician or teacher to aid in any way the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

The position of the regular faculty in the University of Michigan—their repugnance to homœopathy as an exclusive school, their opportunities to teach sound principles of practice, etc., to those whom we believe to be erring, their courage in remaining steadfast at the post of duty—all these things, and others, lead us to commend their course in this matter, and to condemn any effort to displace them. It would be as reasonable to bring charges against an editor of the regular school who happens to have some homœopathic or eclectic subscribers. His journal aids in some way the medical teaching of such persons; and he thereby, as well as the professors of the regular school in the Michigan University who do their duty, are doing far more than the National

Association to expose the nonsense of any exclusive school. For ourselves, we wish the regular medical journals had long lists of homœopathic and eclectic subscribers, just as we wish that every one who is an honest believer in an exclusive practice could be induced to attend courses of lectures at the regular schools, and follow the clinical professors around their wards in the hospitals. To this matter we expect to refer again.

The Association has also erred in the illiberal manner in which it disposed of papers. By so doing, it withholds from the profession that which is for the good of the profession. Journals have not the space to give to reprints from the Transactions of the Association. Besides, the Transactions are published many months after they have been read, when the interest that was developed at the moment of reading of the papers has passed away, so that scarcely any one besides the author and his immediate personal friends ever read the production. Furthermore, these Transactions are too limited in the size of the editions and are far too costly for general circulation.

Reform in many particulars is essential to make this Association what it purports to be, and what it should be.

University of Virginia.—The following is a list of the graduates in the medical department of the University of Virginia at the Commencement June 26th, 1878: John M. Bannister, Huntsville, Ala.; John F. Campbell, Blossom Prairie, Tex.; Walter W. R. Fisher, Winchester, Va.; Robert Glasgow, Fincastle, Va.; Tim. R. Hendersen, Greenwood, Miss.; Francis J. Ives, New York city; S. B. Jones, Charlotte, N. C.; H. W. Lilly, Fayettesville, N. C.; A. Randolph Mott, Jr., Leesburg, Va.; R. T. Ogg, Jr., Rockbridge Baths, Va.; W. Otway Owen, Jr., Lynchburg, Va.; George M. Preston, Lynchburg, Va.; A. C. Holmes Russell, Fort Valley, Ga.; Arthur F. Sampson, Georgetown, S. C.; James M. Scott, Lewis' Store, Va.; Frank M. Urquhart, Norfolk, Va.; Ben. Leon Wyman, Tuscaloosa, Ala.—Total, 17.

There is nowhere a more thorough didactic medical college in the country.

The Graduates in Medicine at Harvard University, June 26th, numbered 47. There were seventy-two applicants, of whom six withdrew their names and nineteen were rejected. It would be a good thing for humanity and professional respect if other colleges adopted a like rigid course.

Allowance for Physician or Analytical Chemist.—According to the recently-revised *Criminal Code of Virginia*, now in press, "a court may appoint a physician to attend prisoners in its jail and make him a reasonable allowance, not exceeding seventy-five cents a day for each day he attends a patient. When he attends more than one patient a day there may be allowed fifty cents per day for each additional patient. A court may make an allowance not to exceed the sum of $25 as compensation to any physician or analytical chemist for making an analysis to discover poison in any criminal case." Chapter xix, section 3.

Dr. George Reuling, we are sorry to learn from the June number, 1878, of the *Maryland Medical Journal*, has been found guilty by the Medical and Chirurgical Faculty of Maryland, of continued "advertising his specialty of eye and ear diseases in various newspapers throughout the country, and had paid for notices of his successful operations." As this was the first case of a breach of Ethics which had been brought before the Society, a vote of reprimand was passed instead of the extreme penalty of expulsion.

Mansill's Almanac of Meteorology and Planetary Phenomena for 1878 contains charts showing the longitude of the planets at interesting periods in each month. Furthermore, a prognostication of meteorological and terrestrial disturbances founded upon the said position of the planets with regard to each other and the sun. Solar heat is electricity undulating and vibrating between the sun, the earth and other planets, which latter absorb electricity as they expand while passing from aphelion to periphelion—hence iliac perturbations. We call the attention of homœopaths to the fact that mercury is the great disturber. *Similia similibus.*

The Hygeia Hotel at Old Point Comfort (Fortress Monroe), Va., has been a remarkable success this year. Scarcely an excursion projected from Virginia and other cities that has not this delightful place in anticipation. As a sea-side health resort, we know of no superior. It is the best place that we know of for health seekers at this season of the year.

Vitalized Phosphates, manufactured by Mr. F. Crosby, is an excellent preparation for administering phosphorus in an easily assimilable and non-irritating form. It is growing in favor wherever introduced.

Book Notices, &c.

Cerebral Hyperæmia. By WILLIAM A HAMMOND, M. D., Late Surgeon-General U. S. Army; Professor of Diseases of the Mind and Nervous System in the Medical Department of the University of the City of New York, etc. New York: G. P. Putnam's Sons, 1878. 12mo. Pp. 108. Cloth. Price $1. (For sale by Messrs. West, Johnston & Co., Richmond.)

This monograph was read in outline before the New York Neurological Society, November 9th, 1877. Its principal object is to show the relation of mental strain and emotional disturbance as causes of cerebral hyperæmia, and to indicate the line of treatment which, in the hands of the author, has seemed most successful. It is a practical work, and a useful one, so far as the record of individual experience is concerned. It urges, with an array of the most convincing facts, that it is a frequent disorder of the preventable class, although not always so easily cured when once developed. Mental rest, agents that tend to lessen the amount of blood in the brain, and nerve tonics are the chief remedial means recommended.

The volume is gotten up with the usual elegant taste displayed by the Putnams—large print on beautiful paper and nicely bound.

Congenital Occlusion and Dilatation of the Lymph Channels. By SAMUEL C. BUSEY, M. D., Professor of Theory and Practice of Medicine, Medical Department of the University of Georgetown, etc. New York: Wm. Wood & Co. 1878. 8vo. Pp. 187. (From Publishers.)

This is an account of anomalous facts, relating to disturbances in nutrition. It is a book that cannot well be analyzed nor properly reviewed in a few lines. As its title implies, it treats of those conditions of enlargement or atrophy due to dilatation or occlusion of the lymph-channels. It is the less necessary to attempt an analysis of the contents of this book, since the leading facts and views have been presented, in serial articles, contributed almost simultaneously to those worthy and popular medical journals—the *American Journal of Obstetrics* and the *New Orleans Medical and Surgical Journal*. We cannot say that the work is essential to the library of the ordinary run of *medical* practitioners, although it gives an immense mass of information as to the literature, description and well-graven wood cuts of what are ordinarily put down as deformities by hypertrophy and atrophy—con-

genital and such as may result from post-natal disease. To him, however, who limits his practice to surgery, who is most apt to be consulted about such conditions, the work is essential, and demands his studious reading.

As to the part of the publisher, that has been admirably done.

The Source of Muscular Power. By AUSTIN FLINT, Jr., M. D., Professor of Physiology, etc., in the Bellevue Hospital Medical College, etc. New York: D. Appleton & Co. 1878. 12mo. Pp. 103. (For sale by Messrs. West, Johnston & Co., Richmond.)

This is the revised essay as published in the *Journal of Anatomy and Physiology* (Cambridge and London), October, 1877. Besides quoting largely from the experiments of other physiologists, Dr. Flint gives in detail the results of his experiments upon the world-famed pedestrian, Weston, made during his noted fifteen days' walk. Indeed, his conclusions, which are too lengthy for us to transfer to our columns, are based chiefly upon his experiments with Weston. The gist of the whole, so far as practitioners are concerned, seems to be stated as follows in his sixth conclusion:

"By systematic exercise of the general muscular system, or of particular muscles, with proper intervals of repose for repair and growth, muscles may be developed in size, hardness, power and endurance. The only reasonable theory that can be offered in explanation of this process is the following:

"While exercise increases the activity of disassimilation of the muscular substance, a necessary accompaniment of this is an increased activity in the circulation in the muscles, for the purpose of removing the products of their physiological wear. This increased activity of the circulation is attended with an increased activity of the nutritive processes, provided the supply of nutriment be sufficient, and provided, also, that the exercise be succeeded by proper periods of rest. It is in this way only that we can comprehend the process of development of muscles by training; the condition in training being exercise, rest following the exercise, and appropriate alimentation, the food furnishing nitrogenized matters to supply the waste of the nitrogenized parts of the tissues. This theory involves the idea that muscular work consumes a certain part of the muscular substance, which is repaired by food. The theory that the muscles simply transform the elements of food into force directly, these elements not becoming at any time part of the muscular substance, is not in accordance with the facts known with regard to training."

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Original Communications.

ART. I.—**A Few Practical Observations on Electricity, designed to excite an Interest in the Subject amongst the Younger Members of the Profession—Report of Cases.** By JOHN HERBERT CLAIBORNE, A. M., M. D., President Medical Society of Virginia; Author of "Clinical Reports from Private Practice," etc., Petersburg, Va.

Since the discovery of chemical electricity by Galvani in 1791, has the electric force been utilized to greater or less extent in the treatment of disease. The discovery of induced electricity by Faraday in 1831 created new and more general interest in the subject amongst medical men; but not until Duchenne, of Bologne, appeared before the Academy of Sciences in 1847, an advocate of the application of the induced current to the treatment of various maladies, can we consider that electricity was taken out of the hands of empirics and impostors and turned over to the investigation of men of science and repute. The publication of an article by the same distinguished savant in 1855—*De l'Electrization Localiseé et de son Application á la Physiologie, á la Pathologie et á la Therapeutique*—together with Du Bois-Raymond's discoveries in electro-physiology, and Remak's brilliant experiments in electro-therapeutics about the same time, not only gave new impetus, but inaugurated a new era in the use of galvanism. Since that time, so many men of genius and ability and research have devoted their attention and study to the subject, that immense material has been gathered and classi-

fied and published, and the medical man of to-day who is not prepared to register electricity among his armentaria medicæ has failed to add to his practical resources an important instrument of his art. A number of treatises and monographs—Ganot, Ziemssen, Althaus and others from abroad, and Hamilton, Beard and Rockwell, and Neftel and others at home—have appeared within the last few years, from which the student can, with little trouble, acquire such knowledge of the physics, of electricity, of electro-anatomy, of electro-physiology, of electro-therapeutics, as to enable him to commence that practical application of the electric force, which alone can qualify him to use it in the general treatment of disease. Indeed, no work upon therapeutics is now complete, nor would its author dare to put it forth upon the world without a more or less extended consideration of the physiology and therapy of electricity. In the revised edition of Wood's *Therapeutics and Materia Medica*, 1876, the author, though by no means an enthusiast on the electrical treatment, has yet published an extended, and, in some respects, an excellent chapter on the electric force, and even added as an appendix to the work a number of anatomical cuts indicating the *points d'election* for the application of the currents.

The great difficulty which meets every tyro in the study of medical electricity, is the selection of the currents adapted to specific pathological conditions. He will, indeed, stumble perhaps even over the *physics* of the *galvanic* current, and the *faradic* current, and the *interrupted* current, and the *constant* current, and the *primary* current, and the *secondary* current, etc.; and by the time he reaches the therapeutical or physiological application of the several, he will have fallen, he thinks, it may be, to rise no more. But the simple reflection that the subtle agent with which he is dealing is after all but one in its nature, as in its name, and of which he was taught by the pedagogue of his early school days, "*Franklin eripuit fulmen cœlo*" in the story of the kite and the key; and that the Leyden jar and the insulated stool of miraculous memories, and the voltaic pile of the first laboratory he ever saw, and the tin handles of the magnetic machine of the peripatetic professors—all embody that one pervasive, undivided

element, whose habitats he can himself construct, and whose laws he can both know and administer—a recollection of these things will give him perhaps sufficient mastery both of himself and of his subject to enable him to classify these various manifestations, and to reduce them to rule. He will soon see that these varieties of electricity may all be reduced to three: 1st. The *statiç*, exemplified by the lightening or by the charge laid up from *friction* in a Leyden jar, and which explodes with a spark. 2d. The *chemiçal*, begotten when two unlike conductors—say two metals—are brought together in an exciting solution, and called galvanic electricity from its discoverer, Galvani. And 3d. *Induced* electricity. Faraday discovered that a current of electricity was induced in another conductor placed near a galvanic battery at the opening and closing of the galvanic circuit. Hence this induced electricity is also called Faradic, or Faradaic, electricity, and the induced current the faradic current.

But as statical electricity is almost never used now as a remedial agent, it is only necessary for the student to make himself familiar with the two latter currents, viz.—the galvanic, or, as it is sometimes called, the constant current, and the faradic or interrupted current. Instruments developing these two currents separately—called the galvanic battery—and the galvano-faradic battery, or instruments developing both, may be purchased of any first-rate surgical instrument-maker at from fifteen to fifty dollars, of sufficient power for all practical purposes. To these must be added, by the student who desires to practice surgery especially, an instrument known as the galvano-cautery, and the armentarium is complete.

After becoming familiar with the use of the instruments, he must then study the therapeutic effects of the two currents—the constant and the interrupted. Most of modern electricians hold there is great difference in both their physiological and therapeutical effects—that the galvanic has greater chemical, electrotonic and catalytic effect, and hence that it is of most use as an alterative. The faradic current is mostly recommended for its local effect, being a powerful stimulant of muscular action, and of the superficial nerve-trunks. The

German school of electricians, following the late Prof. Remak, teach the former doctrine strongly, whilst the French school, still following Duchenne, recommend general faradization as combining both effects. No doubt, some of the greatest therapeutic results of electricity have been obtained by general faradization. In a great number of cases the best results are to be secured by the combined and alternate use of both the galvanic and faradic currents. Indeed, the student should constantly recur to the fact that the entity of the agent is, after all, one—that the galvanic current, by opening and closing of the circuit, is really made an interrupted current, and that the faradic may be so *rapidly interrupted* by a vibrating spring as to permit no appreciable interval of time to occur between the vibrations, and thus to simulate, as it were, a *constant* current. In addition to these currents, the faradic battery should develop two—marked primary and secondary currents. Duchenne considered that these two currents produced effects markedly different—and some modern electricians hold now that the first, or primary, acts mostly on the muscles; the second, or secondary, on the sentient nerves. These are points of interest, and may be subjects of study and experiment with the beginner.

The student has now but to make himself familiar with the difference between the effect of an ascending and a descending current—a current with or against the direction of a nerve—a current to or from the spinal centre—with the difference in the vital, and perhaps chemical, conditions of the parts of the body in conjunction with the positive and negative poles of a battery—facts and conditions discovered and elucidated by Ritter, Du Bois Raymond and Phlüger—and giving rise to the terms *electrotonus*, *anelectrotonus* and *catelectrotonus*, which any manual upon medical electricity will make plain to him. And as I consider myself especially indebted to the little book of Dr. Allan McLane Hamilton on *Clinical Electro-Therapeutics*, I hope it will not be considered improper to refer to it here. The *points d'election* for the application of the current, the strength of the current, the duration and the frequency, the *seances*, &c., are practical points with which he must also acquaint himself, and which he can readily learn.

And now, premising that the general effects of electricity upon the system are acknowledged and understood, he can commence the application of this therapeutic agent to the treatment of various diseases, and register it as a powerful *stimulant* in both organic and functional disorders; as a *tonic* in all debilitated conditions; as an *alterative*, a *counter-irritant*, a *solvent*, and a *catalytic*.

And indeed it may be registered as a powerful adjuvant in the treatment of all diseases dependent upon or associated with impaired nutrition or debility of vital action—in nervous dyspepsia, neurasthenia, anæmia, chlorosis, hysteria, hypochondria, paralyses and neuralgias of constitutional origin, in asthma, in rheumatism, and other toxic disorders, in chorea, and in many other diseases—functional and organic—of the digestive, genital and spinal systems.

In illustration of what we desire to impress on the student, we append a few cases taken promiscuously from our notebook.

Case I.—*Neuralgia of the Fifth Pair—Faradic Current—Cure.*—Mr. J. J., æt. 26; ordinarily in good health; has suffered for a week with *neuralgia* of fifth pair, brought on by sleeping under an open window. Pain is not constant, but comes on at irregular intervals during both day and night, and is severe—he says, "lancinating, jumping, insupportable." He has been treated with purgatives, quinine, opium, &c., but without effect. There is some tenderness along the course of the supra-orbital and infra-orbital branches of the trifacial on the right (affected) side, but no redness of integument and no swelling of tissue. Placing one electrode in the submaxillary fossa, and the other, in the shape of a large moistened sponge, on the right side of the face and forehead, I passed a finely-interrupted primary current (faradic), of moderate tension, for three minutes, when so much brain disturbance, in the way of nausea, vertigo, etc., was developed that I had to remove the sponges. The pain, however, was relieved. It recurred slightly on several occasions during the twenty-four hours succeeding the use of the electricity, but one other *seance* at the expiration of that time removed it entirely.

In this case, the faradic current was used because a galvanic current could not conveniently be gotten at the time. The latter would have been preferable, for the reason that

the former current, unless very rapidly or finely broken, causes great pain, even when of moderate tension, if applied in any locality where but little tissue intervenes between the integument and bone, as on the forehead or over the scalp, where deprived of hair.

In that form of cerebral neuralgia called *migraine*, the use of the galvanic current promises as much relief—perhaps more relief—than any other treatment. Migraine, or, as it is severally called, sick headache or hemicrania, is generally supposed to be an affection of the fifth pair. Romberg and Anstie, however, have excluded it from the peripheral neuralgias, and the latter thinks that it is the result of some *lesion* at the pons or at those parts of the medulla oblongata which give rise to the roots of the trigemini! *Q. e. d.?* Du Bois Raymond, who is said to have been a great sufferer from migraine, and hence to have had great opportunity for its clinical study in his own person, attributed all of the phenomena of migraine to tetanus of the vaso-motor nerves of the affected side of the head, and notes in evidence, that during the paroxysm of headache there is a resistant and contracted condition of the temporal artery on the same side—that the corresponding side of the face is paler and collapsed, and the eye smaller and more injected—and that there is, finally, the pathognomonic symptom of enlargement of the pupil on the same side.

Such a condition of things would seem to point to irritation of the sympathetic nerve, or to some irritation at the vaso-motor centres (centrum cilio-spinale); and the electrical treatment should consist in galvanism of the cervical sympathetic. Neftel claims the very best results from this practice, and, with other electricians, galvanizes the cervical sympathetic by placing one electrode firmly in the auriculo-maxillary fossa, and the other on the sixth or seventh vertebra. Some pathologists, however—amongst them Dr. H. C. Wood—deny that the cervical sympathetic can be thus brought under electrical influence, on account of anatomical difficulties—viz., the depth at which the cervical sympathetic ganglion lays under the carotid artery. It is true that the symptoms—especially the ophthalmic symptoms—developed

by this method, are not as constant or uniform, I suppose, as those which follow the application of the electric current to the bared ganglion itself; but the general results attending galvanization of the sympathetics are attested by too many witnesses—men of scientific skill and of acumen and credibility—to admit of any doubt as to the wonderful therapeutic effects which may follow the operation. Nettel thinks that electrization of the sympathetic, as introduced by Remak, is "one of the greatest therapeutic discoveries of our century." And he instances a number of experiments by Claude Bernard, Benedikt, Müllen, Prussak, and others, confirmatory of his views. In my limited experimentation on galvanization of the cervical sympathetic, I have succeeded in developing repeatedly that enlargement of the pupil, &c., known as result of irritation of that nerve, the observation of those standing near who had not been posted as to what to look for or expect. In cases in which I failed to do so, I have attributed the failure, in some instances, to the anatomical reasons indicated above—the patient being obese, and the ganglion being deeply situated in the neck.

Galvanization of the sympathetics, of the trifacial and of the pneumogastric—the great par vagum—with its endless ramifications and inoculations, presents to the student a most interesting field for exploration and experiment. In intercalating sections of those nerve-cords between the poles of a galvanic battery, great caution, of course, must be observed, and the student must carefully know their physiological offices, and their reflexions on the great nerve-centres.

Case II.—*General Nervous Prostration and Partial Paraplegia of Four Months' Duration, relieved after Two Months of Treatment by General Faradization.*—Dr. L., a clergyman, æt. 68, while preaching some four months ago, was taken with a sudden attack of amnesic aphasia; he found himself "unable to name his words, and at the same time had a vague feeling as if the congregation was slowly receding from him." He says that feeling weak and dizzy, but without the slightest loss of consciousness or intellection, he ceased his discourse, and was assisted from the pulpit to his quarters near by. He was exceedingly prostrate, and unable to leave his bed for some days. He has been able to walk about for some

months, though very feeble, and incapable of any physical or mental effort. He has now no trouble in reference to the memory of words, and the paraplegic symptoms seem mostly limited to the right leg. His appetite is fair, and his bowels in normal condition, but he has difficulty in retaining his urine, having no control of it after the accumulation of a few ounces in the bladder. He passes in the twenty-four hours rather more than the ordinary amount of light amber-colored urine, of specific gravity 1010. It is rather turbid, even when first passed. Shows, on examination, no albumen, traces of sugar, and pus globules to no inconsiderable number. Heart and lungs healthy. No pain anywhere, but debility excessive.

I put him on two drachms of cod-liver oil and twenty drops of glycerite of kephaline after every meal, and general faradization daily for ten minutes—standing him on an insulated copper plate, to which one electrode was attached, and using the hand of the operator on the other electrode. The improvement was visible after the first few *seances*. At the expiration of a month his urine was natural, and the vesical irritability gone. At the expiration of two months of treatment, he walked actively into my office and announced himself well.

Case III.—*Paraplegia of Ten Years' Standing Treated by Alternate Use of Galvanism and Faradism.*—Mr. H., æt. 48. Ten years ago he was crushed to the earth by an iron wheel falling over upon him, striking him on the shoulders. He was only saved from instant death by sinking down between two sills of timber. Upon being taken up, he found himself entirely paralyzed in both legs, and without control of either bowels or bladder. A good deal of general disturbance followed the accident, of course, and from his history of the case I suspect extensive myelitis resulted. The spinal column is even now enlarged, and there is torsion to the right side about the last dorsal and first lumbar vertebræ. All signs of inflammation have, however, long ago subsided. He was confined to his bed for perhaps one year, during which time his bowels could only be moved by the most powerful cathartics. He is now compelled to rely on a pill of colocynth, nux vomica and belladonna when he desires an evacuation, and has no ability to pass his water—always using a catheter to empty the bladder. He walks now tolerably well with the use of a cane, but there is yet considerable paralysis of the right leg—muscular contractility and sensation both being impaired, and only responding to a faradic current of high tension.

On September 27th, I commenced the treatment by passing a faradic current through the lumbar region from the spine to the pubes; then from the sacrum to the soles of the feet—standing him on an insulated copper plate; then from the nucha to the sacrum, giving him three *seances* of ten minutes each per week. On the 27th October, I commenced alternate use of galvanic and faradic currents—electrifying the bladder directly by passing an insulated catheter into it as one electrode, and applying the other electrode to the sacrum, to the pubes, to the points of exit of the great sciatic nerves, &c. Galvanizing also the inferior sympathetic ganglia, and indeed the whole spinal centres, was practised. No general treatment, or special treatment of any sort, except the above, has been resorted to.

At the expiration of six months, we note the following results: 1. The constipation was relieved almost from the first, and he has rarely now to resort to medicine to produce an action on the bowels. 2. He says that he is recovering some sensation and some use of the bladder, but I do not think the results so far justify the hope that he will ever be able to empty it entirely without the use of the catheter. The muscular atrophy from long disuse, if from no other cause, is too great now to hope for return of function. 3. His power of locomotion has very much improved. He has discarded the cane and walks comparatively well. 4. His general nutrition has greatly improved. He says he feels better now, and is heavier than he has been for many years.

Whilst the length of time, therefore, intervening between the accident and the commencement of the use of electricity, is too great to hope for perfect restoration of function, yet the improvement has been great and justifies continuance of treatment.

Case IV.—*Menorrhagia of Nine Months' Duration Cured by Faradic Current.*—Mrs. Blank, æt. 42, mother of five children, the last one twelve months of age, has nursed none of her children; been in delicate health for several years; had during the whole of that time, when not pregnant, excessive menstruation, and for nine months past has been confined to her bed for ten days out of every thirty with her menstrual flow. The discharge is so great that she does not recover her strength or color during the intervals, and she is feeble and blanched. Examination, both before and after the use of sponge tent, revealed nothing abnormal about the uterus except that it was somewhat larger than the average unimpreg-

nated organ, and flabby; os patulous, and no difficulty in passing the forefinger through the inner mouth. As every other resource had been patiently and persistently tried—ergot, oxide of silver, cannabis indica, opium, &c., besides all sorts of injections and local applications—I advised the use of the interrupted current.

On the 2d day of September, and on the eighth day of the molimen, I applied the faradic current for five minutes, as strongly as she could bear it—placing one electrode, a sponge-covered metallic foot-piece, under the sacrum as she lay on her back, and the other electrode (the ordinary sponge-covered metallic disc) just above the pubes.

Sept. 3. Flow notably diminished. Repeated the *seance*.

Sept. 4. Still diminishing—almost ceased. Repeat *seance*.

Sept. 5. Well; but repeat *seance*.

Sept. 26—and third day of recurring menstruation—repeat treatment.

Sept. 27, 28, and 29. Repeat.

On 29th, the flow ceased, having been less in quantity and of shorter duration, by *four days*, than it had been for nine months. Continue daily use of current for ten minutes for four days.

October 27. Commenced daily use of the current on third day of sickness, and continued as before, with encouraging results.

November 21. Commenced the use of the current on the first day of flow. Menstruation ceased entirely on the 26th, and she was able to get up. Has not lost as little blood, or been as well at such a time, for years.

December 18. Similar treatment. Flow natural. Discontinued treatment.

ART. II.—**The Antiseptic Treatment of Puerperal Fever—Safe Method of Injecting the Uterine Cavity—Report of Cases.**

By WALTER IZARD, M. D., Late Resident Physician Louisville (Ky.) City Hospital, etc., Liberty, Va.

It is necessary to premise this report by saying that the form of puerperal fever here meant is neither puerperal *peritonitis* nor *metritis*. The latter affection is sometimes present, but is never the principal feature of the disease. The affection treated of here, and known more properly by the term, *puerperal septicæmia*, seems undoubtedly, as its name indi-

cates, to be a general blood-poisoning, occurring in the parturient condition, and having for its cause the retention or partial retention and absorption of excrementitious and morbific matter, which ought to be thrown off with the lochial discharges.

This being the cause (and if not absolutely proven to be so, the probability of it is so great as to amount almost to certainty), the rational mode of treatment is to remove the cause, thus striking at the root of the disease at once. For this purpose, the vaginal wash in common use is insufficient; and it becomes necessary, in order to reach the source of the trouble, to make the injections intra-uterine instead of intra-vaginal.

I am aware that the subject of intra-uterine injection of fluids has been already discussed and opposed by many members of the profession on the ground of its dangers, the chief of which is the danger of the injected fluid escaping by means of the Fallopian tubes into the peritoneal cavity, thus causing general peritonitis and death. This danger, however, may be reduced to a minimum, and in my own opinion may be rendered *nil* by proper care as to the apparatus used for injecting, as well as to the strength, temperature, &c., of the fluids to be injected.

For the apparatus, a double catheter, almost identical with that in common use for washing out the bladder, may be used—the only points of difference that I would suggest being a longer and more gradual curve to the instrument, and a slight prolongation of the two tubular orifices through which the injected fluid makes its entrance and exit respectively; also, care should be taken to observe that the escape tube of the instrument is several sizes larger than the delivery tube; also the eyes may be made somewhat larger than in the ordinary catheter with advantage. The instrument may be made either of gutta percha or silver—the latter being preferable, because more easily cleaned. Two pieces of rubber tubing, two and a half to three feet long, should then be fitted to the tubular orifices of the instrument; to the one through which the entering fluid is to pass, a large glass funnel should be attached (capacity one to two pints).

Everything being prepared, and the patient occupying the dorsal decubitus, with the lower extremities flexed, and the body having been placed near the edge of the bed by assistants, the left index finger, well oiled, should be placed in contact with the external *os uteri;* then the catheter passed along this finger as a guide should be passed to the fundus uteri—meeting in this condition no resistance at the internal *os*. Then the fluid to be injected, having been poured into the funnel, should be raised to the height of two feet above the bed, and the fluid allowed to flow in the uterus, the only force used being hydrostatic pressure. The fluid will be found to return almost immediately through the waste tube so changed in appearance as to leave you in no doubt as to whether it has come in contact with the internal uterine walls or not. I would ask special attention to the funnel arrangement as the one calculated to accomplish the desired end with the least possible amount of injurious force, and would earnestly deprecate the use of Davidson's, or any other pump-syringe, as by these instruments the fluid is thrown in with such force as almost to render its escape through the Fallopian tubes a certainty.

The washing out of the uterine cavity in the manner I have described should cause no pain, although slight uneasiness is sometimes complained of by patients during the introduction of the instrument. The fluids used for washing out the uterine cavity have been several—I prefer, however, potassæ permanganæ (grs. 7½ to one pint of tepid water), to any other; but I have also used, with good results, carbolic acid (℥j to the pint of water) and a weak solution of salicylate of soda in glycerin and water.

Case I.—M. S., æt. 30, admitted to Louisville City Hospital *March* 26, 1877, in labor. Delivered an hour after admission of a living child; labor natural in all respects; no complications. She had had two children before. The case progressed well until *April* 1*st*, when she had a slight rigor, chilly sensations continuing for several hours. The secretion of milk had become abundant on the 29th, unaccompanied by chill. Temperature, taken soon after the chill, was found to be 101° Fahr.; respiration, 26; pulse, 100. Ordered quiniæ sulph., grs. v, night and morning.

April 2d—A. M.—Temperature, 103° F.; respiration, 29; pulse, 105. Lochia somewhat diminished but not offensive. No abdominal pain or tenderness; secretion of milk somewhat diminished. *P. M.*—Temperature, 105°; respiration, 30; pulse, 115. Ordered quiniæ sulph., grs. xx, at bedtime. Lochia slightly offensive.

April 3d—A. M.—Temperature, 105½°; respiration, 32; pulse, 130. Lochia very offensive, and not much diminished in quantity. Milk as before. During this time the vaginal wash (salicylate of soda) had been used, as in all labor cases in the hospital. No doubt being longer entertained as to the nature of the case, and the diagnosis of puerperal septicæmia being made, the treatment was adapted accordingly. The patient's condition at this time was as follows: Dorsal decubitus; limbs extended; countenance dull and apathetic; breathing irregular and sighing; pulse quick, small and wiry; extremities cold and moist; head sweating. Treatment—Uterus washed out at once with the following: R. Potass. permangan., ℥ss; aquæ, ℥viij. M. Sig. Put a tablespoonful in a quart of water and inject. The returning fluid was of a thick, coffee color, subsequently returning clear; all odor was destroyed for the time by the injection. In addition, take quiniæ sulph., grs. x, *ter in die*, and spiritus frumenti, ℥ss, every three hours. *P. M.*—Temperature, 105½°; respiration, 30; pulse, 130. Uterus washed out as before; odor of lochia less offensive than in the morning. Treatment continued.

April 4th—A. M.—Temperature, 103½°; respiration, 26; pulse, 126. Patient was delirious during the night, and is slightly so this morning. Uterus washed out again; the returning fluid presents same characteristics as before, containing also flocculi apparently of mucous membranes; no odor. Treatment continued. *P. M.*—Temperature, 105°; respiration, 26; pulse, 120. Uterus washed out and treatment continued.

April 5th—A. M.—Temperature, 103½°; respiration, 26; pulse, 120. Breathing more regular, pulse somewhat fuller; has slight diarrhœa; treatment continued. *P. M.*—Temperature, 104°; respiration, 24; pulse, 115.

April 6th—A. M.—Temperature, 103°; respiration, 20; pulse, 110. Appetite somewhat better, diarrhœa continues and is somewhat excessive. Ordered tincture opii camph., ℥ss. Treatment continued as before. *P. M.*—Temperature, 102°; respiration, 20; pulse, 100. After this time the temperature steadily went down, the lochial discharge resumed

its natural characteristics, the secretion of milk returned. The uterine injections were discontinued on 11th. The involution of the uterus was slow, however, and the convalescence of the patient was prolonged.

Case II.—A. K., æt. 19, unmarried, primipara, was delivered *May 9th* of a living child after a protracted and tedious labor; no complications. On the 12th, the patient had a chill in the afternoon. Temperature, 103°; respiration, 28; pulse, 116. Milk was present in the breast, but in small quantity, lochia abundant; no odor. Some abdominal pain, but no tenderness. Ordered quiniæ sulph., grs. x, night and morning.

May 13th—A. M.—Temperature, 101°; respiration, 22; pulse, 100. Quinine continued; the patient appears to be doing well. *P. M.*—Temperature, 101°; respiration, 22; pulse, 110.

May 14th—A. M.—Temperature, 101°; respiration, 22; pulse, 100. Lochia slightly offensive.

May 15th—P. M.—Temperature, 101°; respiration, 22; pulse, 100;

May 16th—A. M.—Patient had a chill in the afternoon. Temperature, 104⅛°; respiration, 18; pulse, 100. Seems very dull and apathetic, dozes almost constantly; respiration sighing and irregular; pulse small and somewhat jerking.

12 *Midnight.*—Temperature, 106¼°; respiration, 14; pulse, 120. Breathing very irregular and sighing; pulse intermits one beat in ten; lochia offensive but abundant. Patient is very apathetic, dozes constantly, and seems almost comatose; vomits frequently, *without nausea*—vomited matter consisting of mucus and bile; countenance pallid; extremities cold; surface of body burning to the hand. Dorsal decubitus, limbs extended, complains only of being "tired," and has no pain. The gravity of the symptoms in this case appeared so great, and their development so rapid, that but small hopes were entertained of her recovery. The uterus was washed out in exactly the same manner as in the preceding case; lochia very offensive. Ordered quiniæ sulph., grs. xx, as an antipyretic, but this, I was afterwards informed, was vomited.

May 17th—A. M.—Temperature, 105½°; respiration, 20; pulse, 130. Mental condition same; has vomited constantly during the night, which persists this morning. Has no pain; bowels constipated. Ordered enema; sinapisms over epigastrium before the administration of medicine; also for the vomiting the following: ℞. Morph. sulph., grs. ij, acid hydrocyan., dilut., ♏ij; aquæ distillat., ℥ij. M. Sig. Teaspoonful every two

or three hours. The uterus was washed out as before, the fluid returning very much discolored and thickened. Ordered quiniæ sulph., grs. xx, *ter die* and spts. frumenti, ℥j every two hours. The patient seemed this morning in imminent danger of sinking. She was visited every two or three hours during the day, the symptoms continuing the same, except the vomiting, which occurred less frequently after the second dose of the above presciption. The quinine was retained.

P. M.—Temperature, 105½°: respiration, 20: pulse, 120. All symptoms continue the same. Uterus washed out and treatment continued as before. Some unconscious tossing of the limbs observed. She was seen several times during the night—no change occurring.

May 18th—A. M.—Temperature, 103°: respiration, 20: pulse, 100. A considerable change for the better, sighing less frequent, and countenance less dull: pulse fuller and softer, but still intermits occasionally; vomiting has ceased. Treatment continued. *P. M.*—Temperature, 101°: respiration, 20; pulse, 95. Appetite improved; slight cinchonism, but by no means in proportion to the large doses of quinine taken.

May 19th—A. M.—Temperature, 100: respiration, 20; pulse, 90. All the symptoms are encouraging. Patient is bright this morning, and has asked, for the first time, after her baby, which is being nursed by another patient in the ward.

The patient continued steadily to improve, and her convalescence was rapid. Discontinued intra-uterine injections on the 21st.

One symptom in this case is especially worthy of remark—the disproportion that existed between the high temperature, rapid pulse, and slow respiration—a symptom which is rare, and when present, is almost always regarded as unfavorable by observers.

Case III.—M. W., æt. 18, delivered June 2d: labor natural and rapid; had severe *post-partum* hæmorrhage. Chill on the third day. Temperature reached 105° on the fifth day; respiration, 30: pulse, 120. Treatment was in all respects similar to the last, but the high temperature continued, with but slight variation, for twenty-one days. Lochia presented the same characteristics as in the other cases. The symptoms in this were never so urgent as in the last case, and the patient's appetite was pretty good all the time. At the end of the time mentioned, defervescence occurred, and the patient made a good recovery.

Case IV.—M. C., æt. 19, primipara, labor natural and uncomplicated; delivered two days later than M. W., and developed symptoms of septicæmia almost simultaneously with her; the cases were treated alike and ran a similar course, lasting three weeks—the high temperature continuing unbroken, but finally yielding. This patient also made a good recovery. She had, however, constant delirium of the low muttering order during fourteen days of her illness—a symptom which was never prominent in any of the other cases.

The publication of the daily record of these two cases would make this paper too long; therefore, as they were treated in the same manner as those whose cases are reported in full, I have simply reported these, mentioning the points of difference, if any.

Perhaps I should mention the dietetic regimen of all these cases. It was as nutritious as could be combined with easy digestion—milk, beef tea, eggs, &c. Small appetite and extremely irritable stomach were difficulties with which we had to contend in nearly all cases.

It may be supposed from the length of time elapsing between the dates of the deliveries of the cases reported here, that these are selected cases; it is but fair that I should mention that this is not so—the cases developing puerperal fever in any of its forms at the Louisville City Hospital were, of course, isolated as completely as possible, and there was no actual epidemic at this time. The cases are reported in the order of their occurrence.

It is hoped that this report may attract the attention of the large body of the profession to whom the treatment pursued is practically new, and induce them to give the subject of its general applicability their consideration. In the event of the local prevalence of this disease, I would deem it by no means a work of supererogation to wash out the uterus in every case delivered, as a precautionary measure. It causes no pain, and, properly performed, can be productive of no harm, while it may, and, I believe, would be of incalculable benefit in preventing the spread of a disease so disastrous to parturient women as puerperal septicæmia.

ART. III.—**Gonorrhœa in Women.** By JOHN MORRIS, M. D., Baltimore, Md. (Read before the Baltimore Academy of Medicine.)

In my days of medical tutelage, many years ago, I was taught to look on gonorrhœa in women as a very inconsequential trouble. I was taught to believe that it is a simple local inflammation, confined to the vagina, and that, though specific in its nature, it only required for its cure an astringent injection and the influence of time, and, perhaps, rest. The favorite injection in those days was a mixture of acetate of lead and sulphate of zinc, which, without the knowledge of the gentlemen prescribing these agents, formed a very innocuous compound—acetate of zinc. No remedies were administered internally, for the reason that inasmuch as gonorrhœa in women is confined to the vagina, remedies taken into the general circulation cannot possibly reach it. Some bold practitioners, and they were not a few, who gave Epsom salts to everybody for everything, commenced the treatment of a case by the administration of a large dose of this saline aperient. I confess that I accepted this view of things, thinking it both rational and scientific, and for many years a prescription of an injection of sulphate of zinc was my sole remedy and resource. My cases got well, and "copulation thrived," to use the language of King Lear. A day, however, came in my professional life, when sulphate of zinc did not arrest this simple local ailment—a day in which nitrate of silver even failed to check the onward march of inflammation—and then I was compelled to pause in my career of easy practice and investigate the nature of this serious trouble with which I had to contend. I then discovered that specific vaginitis is, at times, a very intractable disease, and that in some few instances it is wholly incurable.

Diagnosis.—One of the most painful and difficult problems we have frequently to solve is the difference between a specific and a non-specific vaginitis. I thought at one time, before the days of the speculum and the microscope, that I could determine this by the character of the secretion, independently of the general symptoms. I now know that I was

in error. The microscope, however, helps no very little in this regard. In a single non-specific catarrh—a leucorrhœa, for example—you discover the most varied conditions. The secretion may and does vary in color, consistency and odor. At one time, it is thin and white and viscid; at another, yellowish, creamy, and sometimes even greenish, after the manner of a gonorrhœal catarrh in the male; then again, you may have it purulent and mixed with blood, or greenish brown, and offensive in odor. I remember a case I treated many years ago in which I supposed the patient was suffering from cancer of the cervix, from the fact of the existence of this profuse discharge and stinking odor. Further investigation revealed to me my error.

The microscope aids us little in a differential diagnosis. In *simple leucorrhœa*, according to Hildebrandt, you find epithelial cells of every imaginable shape, and also every form of epithelium—cylindrical, pavement and ciliated. You have, at times, every kind of corpuscle, and even vibriones. Infusoria, too, may be apparent, as well as leptothrix vaginale and oidium albicans. How, then, can you determine the difference between this condition and that of a gonorrhœal catarrh, provided the inflammation is confined to the vagina and cervix? We have to depend greatly in our diagnosis upon the history of the case, the time and nature of the invasion, and the surrounding circumstances.

Too much attention cannot be paid to this subject, for it is very important in criminal trials, as well as in suits for divorce, to be able to give an accurate judgment as to the character of a vaginitis. A very interesting case occurred in my own practice some years ago, the particulars of which will serve to illustrate this assertion.

A tramp entered a small tavern kept by a German in the lower part of the city. After loitering about the place, he managed, without being observed, to inveigle a little girl, about four years of age, the daughter of the German, into the privy, where he kept her for some time, and then made his escape from the premises. When the little girl was discovered by her mother, she was in a most deplorable state; all her underclothing was saturated with blood, and blood was also found in the privy. The greatest excitement pre-

vailed at once in the neighborhood. The people gathered about the house; the whole police force of the town were aroused, and before night the tramp was safely lodged in jail on a charge of rape. A medical man in the vicinity was called in to attend the little girl; but after five or six days, the State's attorney deemed it prudent that a thorough examination should be made with a view to the conviction of the ruffian, and I was, therefore, directed to make such an examination. To my great surprise, when I came to examine the child, I discovered that no rape had been committed, and that no penetration had been effected. I found the little girl, however, suffering from a very virulent gonorrhœa, which had greatly inflamed the pudendum. The discharge was copious, creamy in consistence, and of that peculiar color so characteristic of gonorrhœa at a certain stage.

How account, then, for the profuse hæmorrhage in the absence of injury to the soft parts? My theory was this: The man had taken the girl into the privy for the purpose of indulging his lust. He was suffering from gonorrhœa at the time; on the erection of the penis, an attack of chordee came on which rendered it impossible for him to attempt to penetrate the child—therefore, he only rubbed the organ against the genital parts of his little victim to produce an orgasm, and that during this orgasm the frænum gave way, causing the profuse discharge of blood, which led every one to believe that a rape had been committed. This theory proved to be correct, for when the man was afterwards examined at the jail, by Dr. Houck, he was found to be suffering from gonorrhœa, and also from a lacerated frænum. My testimony saved this wretch the death penalty. I gave to the jury my theory of the outrage as just detailed, and further expressed the opinion that, though the man had used the child for carnal purposes, no penetration had been made. He was convicted for an indecent assault alone, and sentenced to but eighteen months imprisonment.

In female children, gonorrhœa is not an uncommon trouble, owing to the prominence of the external sexual organs in childhood. The father of the family contracts the disease; he infects his wife; the little girls sleep with their parents on the bed linen, or towels become tainted, and, as a consequence, the female children are infected. I have treated a great many cases of gonorrhœa contracted in this manner. Even the privy and the water-closet (though there are a great many jokes derived from Joseph Miller to oppose the theory) may be-

come means of contagion. I remember the case of two beautiful young girls, now matronly woman, who contracted the disease in this manner from an apprentice boy in their father's household. The intense specific virulence of gonorrhœal poison is markedly shown by its spread through a whole family from one child to another. I lost a family some years ago, not a very valuable one, I may add, through a diagnosis of gonorrhœa in a child. My friend, Dr. Riggen Buckler, was called to treat the case, and with that extreme readiness, so characteristic of his family, at once pronounced the disease a simple vaginitis, due to worms, or some other phantom. I knew what he did not know—that a colored servant in the house had gonorrhœa; that I had treated another little girl, the companion of the one he was called to see, for gonorrhœa; and that the same water-closet was used in common. Of course, Dr. B's hasty judgment gave great comfort to the parents, and secured their hatred to me for all time. The case, however, proved a very troublesome one, continuing for many weeks, notwithstanding worm medicines, frequent ablutions, and constant injections of sulphate of zinc, etc.

Seat of Disease.—In women, the seat of gonorrhœa is usually the vagina, but occasionally it invades the uterus, the Fallopian tubes, and attacks the ovaries, and not infrequently the urethra and rectum. Gonorrhœal conjunctivitis is to be found in women as well as men, but of course requires no special mention. In Continental and Oriential countries, owing to the beastly habits of the people, rectal gonorrhœa is very common, but in this country, where unnatural practices do not obtain, whenever a female patient is discovered suffering from gonorhœa in the rectum, it is presumed to have gotten there from the vagina, through want of care and cleanliness on her part. When the urethra is attacked, it is supposed that the poison has crept from the vagina to the meatus urinarius. Urethritis in the female is not a common disease, notwithstanding the statements of Siegmund to the contrary. When it does occur, it is generally the result of specific infection, and yields very readily to injections of nitrate of silver. Women frequently complain of great pain,

with smarting and tenesmus in voiding urine, but this is not usually due to an urethritis, but to the acrid character of the urine.

Symptoms.—The symptoms of gonorrhœa are not so well marked in women as in men. Apart from the character of the discharge, we have very little to guide us in our diagnosis when the disease is confined to the vagina alone; however, in a large number of cases the inflammation extends to the meatus, and the pain which the patient consequently suffers from the passage of the urine, serve to point out the specific character of the discharge. Women not less than men suffer from gonnorhœal rheumatism, and this fact sometimes clears up an obscure diagnosis or gives light upon a case in which a husband denies having contaminated his wife. When the disease invades the Fallopian tubes and ovaries, producing peritonitis, ovaritis, or pelvic cellulitis, of course there can be no difficulty in discovering the nature of the trouble. These last symptoms are the most distressing to be met with in cases of gonorrhœa in women, for they involve great suffering and are sometimes lifelong in their effects.

Results of Chronic Gonorrhœa.—The results of chronic gonorrhœa in women are of a very serious character. Sterility is frequently a consequence, and cancer, according to some authorities, is not an infrequent result. Acute gonorrhœal catarrh has a much greater tendency to take on a chronic course in women than it has in men, because the mucous surfaces are more extensive and provided with folds. This chronic inflammatory condition often gives rise to the formation of papillary tumors at the external orifice of the uterus, which Hildebrandt, of Königsberg, believes may result in carcinoma. This eminent clinician and teacher says:

"This conviction has been more particularly forced upon me by what I have observed in women who were married whilst their husbands were suffering from slight gonorrhœa, or whose husbands, by their indiscretion after wedlock, had caught a virulent catarrh, and had had intercourse with them before the disease had quite disappeared. This was strikingly exemplified in the case of a woman, now forty-six years old, and the mother of five children. This woman, up to her forty-fourth year, was healthy, strong, menstruated regularly,

and was quite free from leucorrhœa; in June, 1869, she remarked the sudden appearance of a slimy, purulent, but moderate white discharge, which gave rise to some pruritus and sores on the labia majora. In October of the same year, she sought medical advice, for she found that washing and injections with water did not remove the mischief. In addition to a moderate vaginal catarrh, and a somewhat swollen uterus, I found quite a florid, cervical catarrh with ulcerations of the lips, and small papillary growths in the cervix, which would not yield to cauterization with solid silver nitrate, and could only be removed by the energetic employment of the red-hot iron. The husband confessed to me that in May, 1869, he had caught a moderately intense gonorrhœa, for the removal of which he had had medical advice, but that before the entire disappearance of the discharge he had had connection with his wife. Not many weeks after, I found a rough excrescence on the portio supra-vaginalis of this patient's uterus, the cervix of which had fully healed up and got quite smooth; the growth was situated in front of and below Douglas' pouch, and projected into the rectum, causing much nocturnal pain and great difficulty at stool. From these symptoms and their insidious commencement at the spot which a short time before had been cleansed of its papillary growths, I diagnosed carcinoma. I am acquainted with three other similar cases in which moderately quickly-growing papillary tumors, which only yielded to the hot iron, originated in gonorrhœal infection. If these cases are not the result of a coincidence, but of a causative connection between gonorrhœa and papillary tumors, as indeed is rendered probable by the analogy with the condylomatous growths on the external genitals, then it would appear that the indiscretion of the husband, who, whilst suffering from the remains of a gonorrhœa, renews intercourse with his wife, is visited very heavily on the woman; and then the old, almost forgotten, lesson in the etiology of uterine cancer—that it may originate in a gonorrhœa—would again be worth something."

The condylomatous growths or excrescences here alluded to are very singular formations. In one patient whom I treated some years ago, I think I removed some twenty or more of these warty masses by ligation and caustic. They form sometimes in clusters like grapes, and attain quite a large size; one or two in the case I have referred to grew to the size of almonds. They are, I believe, characteristic of chronic gonorrhœa.

Treatment.—The treatment of gonorrhœa in women is usually a very simple affair. Local remedies are chiefly to be relied on, though I have found cubebs, administered internally, to prove very serviceable, particularly if the urethra or bladder is involved. Cubebs exercise a specific effect on the mucous surfaces even when taken into the general circulation. I have, therefore, used this drug with advantage in both leucorrhœa and specific vaginitis. The old-fashioned injection of sulphate of zinc acts very well in mild attacks if supplemented by frequent injections of cold water. When the urethra or rectum is the seat of the inflammation, nitrate of silver is our most potent agent. When the disease creeps into the cervix uteri, internal injections of nitrate of silver and glycerin are our best means of cure. These cases I have found very intractable, and peculiarly painful when the Fallopian tubes and ovaries are included in the inflammatory process. Months, even years, are required ofttimes to effect a cure. In some cases, indeed, the disease is incurable, and remains as a lifelong affliction. When gonorrhœa attacks the rectum, it is not only painful, but troublesome. In those cases that have come to my notice, many weeks were required to effect a cure. It seems to exercise the same kind of virulence in this locality that it manifests when it attacks the conjunctiva, though, of course, the after consequences are not so serious.* The treatment, I need scarcely say, must be purely local in these cases.

In the first stages of gonorrhœa, if internal treatment is deemed necessary, I know no better prescription than a combination of alum and cubebs. This acts particularly well, if the urethra is included in the trouble. I was much amused some years ago to witness the manner in which my good friend, Dr. Johnson, of Belfast, Ireland, treated women suffering from gonorrhœa in the workhouse of that city. Armed

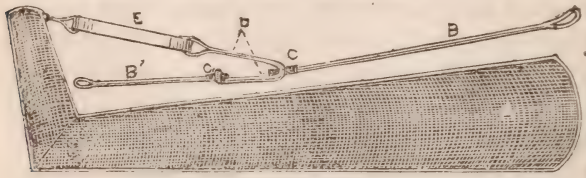
*This extreme virulence, as far as the rectum is concerned, was manifested in a case which occurred at Princeton College many years ago. Two gentlemen, friends of mine, were students, and slept, as was the custom at that time, in the same bed. One of these gentlemen, Mr. E., was suffering from gonorrhœa. As the weather was cold, they slept closely together, "spoon fashion," as it is termed. The cloth which Mr. E. used to swathe his penis became detached in the night, and, greatly to his horror, he discovered in a few days that his friend had contracted gonorrhœa in the rectum, which lasted for many months.

with a long stick of nitrate of silver, he would enter the syphilitic ward, and every patient would appear to be ready for his coming, and immediately assume the recumbent position. He would then plunge his caustic rapidly into the vagina, give it two or three good turns, and pass on from one patient to another in like manner, until he had finished his task. He said this plan saved syringes and solutions and all kinds of "bother," and, perhaps, he was right. The free use of cold water, both as a wash and a drink, is very important in the treatment of gonorrhœa. No particular attention need be paid to the diet, save that the use of condiments and stimulants should be absolutely forbidden.

Thus I have, gentlemen, very briefly given you in the foregoing statement the result of my own experience in the treatment of an opprobrious and sometimes incurable disease. I say incurable, for I think that Nöeggerath is not entirely wrong in stating, though too sweeping in his assertion, that gonorrhœa in women is never entirely cured.

ART. IV.—**Treatment of Fracture of Patella.** By JAMES L. MINOR, M. D., Late House Surgeon, St. Peter's Hospital, Brooklyn, N. Y.

A splint of woven wire, encasing the thigh, leg and foot, deficient in the anterior third of its circumference for its whole length, is evenly padded, so as to correspond to the inequalities of the limb. Into this splint, the lower extremity of the injured side is placed. This furnishes firm, fixed and equal support to the whole limb, except its anterior third. A strip of the best adhesive plaster the length of the thigh, and about two inches wide, is heated and applied to the anterior surface of the *thigh*,



A—Wire splint, neatly fitting limb. *B*—Upper adhesive strip. *B'*—Lower adhesive strip. *C*—Upper chip covered with plaster, and perforated for cord. *C'*—Lower chip covered with plaster, and perforated for cord. *D*—Cord in two different positions. *E*—Elastic band, rubber.

reaching from the groin to a point near the upper extremity of the patella; from this point, it passes down free for about half an inch, and is made to pass over and around a small chip of wood—chip's length equal width of plaster, its width, say, one inch, and the thickness a quarter of an inch. Through the chip, thus covered with plaster, a central perforation is made. The object of the chip of wood is merely to strengthen and maintain the better position of the end of the plaster. A similar piece of plaster is applied to the anterior surface of the *leg*, and fixed in the same manner. The extremity of a stout cord is made fast in the perforation of the lower chip, and the other end is passed through the aperture in the upper chip. A bandage is now applied the whole length of the splint, sufficiently firm to exert the desired amount of pressure on the limb. Downward traction on the free end of the cord will pull the ends of the plaster toward each other if the latter are movable. The lower plaster may be considered stationary—its attachment being the anterior tibial region, and its functions as furnishing a fixed point upon which traction can be made, as also, maintaining the better position of the lower fragment of bone. The upper plaster, however, is movable, being attached to the tissues over the quadriceps extensor femoris muscle. When the free end of the cord is pulled downwards, the upper plaster is pulled upon in the same direction, and thus takes the place of the disabled ligamentum patellæ; and so effectually does this act, that the fragments of bone may be easily brought into contact. Continued traction, to the desired extent, is brought about by attaching one cord, at a convenient distance from the knee, to one extremity of a piece of rubber tubing, while the other end of the tubing is made fast to the foot-piece of the splint.

This appliance meets all of the indications usually called for in the treatment of fractured patella, and, at the same time, places the patient in the most desirable position to be attained under the circumstances. It enables him, as soon as is deemed expedient, to go about with the aid of crutches, and this is a great item requiring some weeks duration. It furnishes a light, portable, neat and durable apparatus, which

does not interfere with the cutaneous functions, nor such bodily movements as are compatible with treatment. Indications, as the above, are hardly met by many of the cumbrous and awkward appliances frequently observed in the hands of accomplished surgeons.

In presenting the above, nothing *new* is claimed. It involves a *combination* of appliances heretofore made use of *individually*. It is simple in construction and application, and admits of modification to suit the taste of any ingenious surgeon.

ART. V.—**Treatment of Infantile Diarrhœa.** By W. H. JOHNSTON, M. D., Selma, Ala.

Diarrhœa, in some form, is more destructive of infantile life than any other disease, and anything which will assist in diminishing the mortality from this disease is a blessing. Impressed with a belief, founded on experience, that much can be done by the proper administration of remedies in mitigating its ravages, I have been induced to write out what I think best in treatment. I will say at once that I know of no specific for this disease. The remedies I use are those in common use by the profession, yet I consider opium in some form indispensable. The manner of using the remedies is what I especially wish to draw attention to. I never hesitate to use cloths in cold water and apply them to the abdomen when it is hot, and the child thirsty. The wet cloths will allay the thirst. The prescriptions which I am in the habit of using for a child one year old, are the following, viz.:

℞. Tinct. opii deodarata.....gtt. xxiv
Argenti nitrat.....gr. iss
Acid, nitric, dil.....gtt. viij
Syr. zingiberis.....ʒss
Aquæ.....ʒiiss

M. Sig. Teaspoonful every two hours if bowels move and the child is not asleep. This prescription I have frequently used with decided benefit when the diarrhœa is accompanied with vomiting.

Another prescription frequently used when the "discharges" are watery, without blood or mucus, is the following:

℞. Tinct. opii deodorata.....gtt. xxjv
Acid. sulph. aromat.....gtt. l
Syr. zingiberis.....℥ss
Aquæ.....℥iiss

M. Sig. Teaspoonful in water every two hours if bowels move. If there is blood or mucus, I add one or two drops of the wine of ipecac to each dose and omit the nitrate of silver and the sulphuric acid.

A favorite prescription in simple diarrhœa with me is to substitute two drachms of subnitrate of bismuth for the silver or acid in the above mixtures.

The directions which I give after having determined upon the remedy are the following: Put as little food or anything else in the stomach as possible, and even then, at long intervals. (This direction, of course, is intended for the early stage of disease.) Give a dose of the medicine at once, and repeat in two hours, whether the bowels move or not, unless the child is asleep. If asleep, repeat as soon as it awakes. Then in three hours give another dose, whether the bowels move or not, unless the child is asleep. In five hours repeat again; then wait until the bowels move, and repeat, and continue to repeat the doses when the bowels move for two days, even if they move only once in twenty-four hours. In short, the directions are to always repeat the dose within two hours from the last dose given, if the bowels have moved during that time and the child is not asleep; if asleep, to repeat as soon as it awakes. By following these directions, the child is kept under the influence of the remedy until the irritation has subsided.

If the "actions" are acid, I give chalk mixture in addition, until the acidity is corrected, every two hours.

When there is mucus at the "actions," and the child strains much at the time of defecation, I have found that five drops of creosote in two ounces of water, injected into the rectum, will allay this trouble. The rectum should first be cleansed by an enema, and the creosote may be allowed to come away as soon as injected.

Where there is blood and mucus in the "discharges," I have

found no superior to ipecac. In giving it, the stomach should be empty, and a full dose of opium in some form should be given an hour before giving the ipecac. (I give two grains of ipecac to a year-old child.) The child ought not to be given anything after taking the ipecac, and should be kept on its back, and not allow its head to be raised for two hours. It ought to be under the influence of the opium when the ipecac is given.

ART. VI.—**A Case of Chlorosis, with Remarks.** By A. S. ALFORD, M. D., Shelbyville, Texas.

On March 16th, 1878, I was requested to see Miss Armadella W. C., about sixteen years of age. She was well formed, of full habit, light auburn hair. She had been in ordinarily good health until a few months ago. The catamenia were established over a year ago, and had been regular until the past two months. For three months past she had complained of headache, and of feeling chilly and "heavy." There was loss of appetite; the bowels were constipated; the peculiar yellowish pallor of the skin was present, and there was a somewhat general bloated appearance of the entire person. When I arrived, the patient had fever, which had not abated for three days, but the temperature was not taken. There was a feeling of fullness of the head with blood; she complained of headache; the pupils were dilated, and she was restless. Bearing in mind the depraved condition of the blood in chlorosis and the torpid condition of the secretory organs, I first gave a cathartic composed of compound extract of colocynth, podophyllin, aloes and calomel.

When this purgative had begun to act the next day, the fever became much less severe, the headache ceased, and, with the exception of nausea, the patient felt better. Sulphate of quinia in ordinary doses was then administered every third hour. If fever does not rise higher, she is to take the following:

℞. Ferri subcarbonat.....ʒj.
Sodæ carbonat.....ʒj.
Pulv. columb. (vel zingiber).....ʒiss.

M. S.: One teaspoonful three times daily. Also use warm mustard baths to encourage menstrual activity, and to apply dry cups to lumbar region. When I left in the evening, she was clear of fever.

March 19. Much better to day; no fever; pupils normal size; nausea relieved; but still inclined to constipation; appetite not very good. In addition to the purgative pill at night, she is to continue the powders and quinia, and to use warm pediluvia every night until menses return.

March 22. Menstruation commenced to-day; some pain in lumbar region; no fever; appetite returning. Substitute muriated tincture of iron in ten drop doses three times daily for all other medicines.

The iron was continued for several weeks. The "flow" lasted three weeks—proper in consistency, color, &c. The patient gradually got well.

In my opinion, chlorosis is mainly due to disordered conditions of the stomach and liver, and hence non-assimilation of nutrition. I do not believe it is entirely due to defective uterine action as held by some authors. Although in most cases of chlorosis, the generative organs are inactive, or perform their functions irregularly, this condition, I am inclined to believe, is a result of the disease in question, and not the cause. Neither does chlorosis result from simple anæmia, for, as mentioned by some authors of high repute, the composition of the blood differs in the two diseases. In chlorosis, the blood changes consist in an excess of fibrin, as in inflammation; in anæmia, other constituents of the "liquid flesh"—especially the red corpuscles—are modified. As a natural consequence of prolonged impairment of the functions of the assimilative organs, the blood suffers both as to quantity and quality. Nervous force is lost or perverted in its manifestations. Hence the morbid appetite, the deranged menstrual functions, the constipation, etc. I regard the peculiar yellowish or greenish pallor of the skin as mainly due to hepatic derangements.

ART. VII.—**Recent Progress in Dermatology.** By GEORGE H. ROHÉ, M. D., Lecturer on Diseases of the Skin, College of Physicians and Surgeons, Baltimore, Md.

Alfelasma Buccalis. (Trelat:—*Bull. de la Soc. de Chirurgie*, 1875; Verneuil: *Tribune Médicale*, 1876, p. 400; Terillon—*Tribune Médicale*, 1876, p. 520; Nedopil—*Archiv. f. Klin. Chirurgie*, 1876; Devergie, *Union Médicale*, 1876;

Schwimmer—*Vierteljahresschr. f. Dermatol. u. Syphilis*, 1877–'78.) The above name is preferred to designate a somewhat rare affection of the mucous membrane of the tongue, cheeks and lips, which has heretofore been described as psoriasis, or ichthyosis of the tongue (*psoriasis seu ichthyosis lingua*), white epithelial patches of the tongue, and under various other names. Schwimmer, who has written the best and most exhaustive monograph upon it, calls it *leucoplakia buccalis* (*leucos*=white; *plax*=a plate). The only objection to this is its awkwardness to an English tongue. The name *alphelasma*=white lamina, was proposed by Dr. H. J. Piffard in a discussion upon the disease before the New York Dermatological Society, last year. While it is no more definite than leucoplakia, it is more euphonious.

According to Schwimmer, the affection occurs in two principal forms: (a) as bluish, grayish, or silvery-white, sharply-defined patches upon the tongue, or as irregular bands, 1–2 centimetres broad, upon the inside of the cheek. The patches are sometimes roughened and slightly elevated above the surface: at other times they are smooth and apparently not elevated above the surrounding mucous membrane. (b) In the form of diffuse, whitish discolorations of the mucous membrane, also sharply defined against the surrounding healthy membrane. They are thickened and sclerosed at points—the latter condition occurring particularly upon the lips. The papillæ may be enlarged and project through the whitish membrane as pale-red points, or as aggregated whitish, warty elevations, or they may have disappeared by absorption in consequence of the morbid process.

The primary stage of the affection is characterized by sharply-defined dark-red patches of the mucous membrane, nearly or entirely devoid of epithelium. These patches very gradually undergo change—resulting after some years in the white discolorations. The patches, when fully developed, have, superficially, a granular appearance, as if a piece of kid-skin had been inserted into the mucous membrane. The secretion of saliva is usually profuse. Subjectively, there is, in most cases, pain during eating, drinking and smoking. Acid and spiced foods, or hot and spirituous drinks can not

be borne in some cases. Smoking must generally be given up. Talking is difficult or painful. There is no alteration of the sense of taste. Certain cases become malignant—the patches undergoing epitheliomatous degeneration. This usually occurs after the lapse of some years.

The diagnosis between this affection and the whitish epithelial patches occurring in the mouth in certain cases of syphilis—the so-called *plagues opalines*—is sometimes difficult, the primary stages of both affections being very much alike. It must be borne in mind that idiopathic alphelasma may occur in a patient who has had syphilis, without any necessary connection between the two diseases. When fully developed, the syphilitic plagues are usually not so white as those of alphelasma. The syphilitic plagues are, according to Kaposé, of a "dirty-gray color, the tongue being covered by a tough, sticky, dirty-whitish mucus. The diffusion and localization of the discolored spots are points of value in forming a diagnosis. In syphilis, the plagues are usually not continuous, and are sometimes found on the under surface of the tongue, while the patches of alphelasma are limited to the upper surface, tip and edges. The latter affection does not give rise to glandular enlargement in its vicinity, while, as is well known, this is a more or less constant accompaniment of syphilitic affections. When other points of distinction fail, treatment will clear up the difficulty, as the syphilitic plagues will usually disappear under specific treatment, while the disease under consideration is not appreciably affected by iodine, and is rendered worse by mercury. Histologically, the process consists in a small-round-celled infiltration of the corium, particularly marked around the capillaries, whose lumina are sometimes obliterated by the compression exercised by the surrounding infiltration. On the whole, the microscopical appearance bears great resemblance to that of syphilis, and a differentiation by this means is probably not an easy matter.

Three possible causes of the affection are mentioned by Schwimmer—digestive disturbance, smoking, and the syphilitic diathesis. The French writers also mention the arthritic and dartrous diatheses as causes. None of these seem to

have been well determined as yet, and at present, the only safe conclusion appears to be that we do not know the etiological factor or factors.

Nearly all cases reported were observed in men, only two cases having been observed in women; one of these is reported by Schwimmer, and the other is recorded by Weir (*New York Medical Journal*, March, 1875). In this case the patches occurred upon the vulva. Smoking or digestive derangement could hardly be accused of causing it here.

The treatment is altogether local: Avoidance of intensifying causes—such as smoking, drinking hot or spirituous liquors, eating spiced or acid foods; using alkaline mouth-washes; touching the patches with a solution of nitrate of silver of varying strength. Devergie uses a caustic of nitrate of mercury, prepared according to the following formula:

℞. Crystallized nitrate of mercury...4 grammes (℥i)
Acetic acid.....2 grammes (℥ss)
Distilled water.....8 grammes (℥ij)

M. This is said to promote absorption of the plagues after three or four applications. Should cancerous infiltration supervene, operative interference or deep cauterization are the only remedies.

Neurotic Nævi.—Neumann reports a case of this curious deformity (*Mittheilungen des Wiener Med. Doctoren-Collegium*, No. 28, 1877). The case occurred in a child delivered in Braun's obstetric clinic. Upon the right buttock and right lower extremity were prominent warty growths arranged in definite lines and bands of a whitish color, and looking at first sight like a vesicular eruption. After the child was two months old, the eruption was found to be gradually declining, and at the time the report was made, had nearly disappeared. This is rather an unusual termination, as nævi generally go on increasing in size.

[A summary of cases previously reported is here added, as follows:

Von Bärensprung (*Charitè Annalen*, 1863,) first called attention to the peculiar distribution of certain mothers' marks, and suggested the dependence of these malformations upon disease of the spinal ganglia of the fœtus *in utero*. He de-

scribed three cases which he termed *nævi unius lateris.* There is generally considerable papillary hypertrophy in addition to the excess of pigment.

Thomson reported a case under the name of *nævus papillaris.*

Theodore Simon (*Archiv. f. Derm. u. Sylph.*, 1872,) first suggested the name of *nerve-nævus*, making two varieties—vasomotor and trophic nerve-nævi. He observed a case where the left side of the face was alone affected. The mucous membrane of the left half of the hard palate, left tonsil and pharyngo-palatine arch was intensely injected. The hypertrophy was strictly limited by the median line. He also reports several other cases.

Gerhardt (*Jahrbuch f. Kinderheilkunde*, 1872,) describes two cases under the name of *neuropathic papilloma of the skin.*

Beigel (*Virchow's Archiv.*, 1869,) describes a case designating it *papilloma area elevatum.*

Geber (*Med. Chir. Rundschau*, May, 1872,) reports a case which began in the fourteenth year, in consequence of an injury.

Oscar Simon (*Die Localization der Hautkrankheiten*, Berlin, 1873, p. 90,) reports four cases, giving a careful review of those previously recorded.

Campana (*Giorn. Ital. delle Mal. Ven. e della pelle*, October, 1876,) reports at length twelve cases occurring under his own observation.

I have seen a case, similar to that of Theodore Simon above given, in this city.—REPORTER.

Vegetable Parasites.—Wigglesworth (*Archives of Dermatology*, January, 1878,) considers the question of the identity or non-identity of the fungal growths causing the different parasitic skin diseases, as favus, ringworm, &c. The subject is examined from the experimental clinical standpoint, and the particulars of an interesting series of inoculations are given. Notwithstanding the very considerable amount of evidence thus adduced, the bulk of which is in favor of the non-identity of the fungi causing different diseases, the author expresses himself very cautiously in the following conclusions:

"1. All vegetable parasites are not inoculable at all times and upon all persons.

"2. Varying degrees of intensity, or duration of application, are needed for successful inoculation of different parasites upon the same skin, the severer cases requiring more thorough inoculation.

"3. A healthy skin may resist the action of the less severe but more widely spread mycoses, but yields to the more thorough inoculation of the more severe and rare forms, showing that the resistant power of the soil furnished is a factor to be regarded.

"4. Extension and intension are in inverse ratio to each other. The milder mycoses are the more common, and point to an origin upon skins below par in vigor.

"5. The various mycoses of the human integument possess each its own distinguishing characteristics, although a transitory stage of growth of one of them may, in rare cases, as in the "ringworm stage" of favus, simulate in appearance one of the forms, temporary or more permanent, of an apparently different species.

"6. While botanical and clinical observations are so at variance in reference to the identity or non-identity of the mycoses, this question must be regarded as still undecided."

Syphilitic Lupus.——Kaposi (*Allg. Wien. Med. Zeitung*, No. 51, 1877, p. 473,) objects to the employment of this designation for an affection which is not only not well defined, but which, in fact, has no existence. It cannot be denied that cases of serpiginous ulceration occur which greatly resemble lupus, and yet the diagnostic features are not sufficiently well marked to permit of absolute diagnosis. Treatment will in general soon determine the question. With regard to the asserted connection between lupus and syphilis, when the former occurs in children of syphilitic parents, the evidence (as has already been pointed out in this journal, July, 1877, p. 242,) is not at all conclusive. Inasmuch, then, as clinical observation does not justify the assumption of a hybrid disease, characterized by the properties of both lupus and syphilitic infiltration, it seems to be advisable to let the term syphilitic lupus drop out of dermatological nomenclature altogether.

Multiple Sarcoma of the Skin.—Dr. Aikins reports (*Canadian Journ. of Med. Science*, February, 1878,) a case of this somewhat rare affection. [Less than a dozen cases have been previously recorded which are analyzed by Dr. Edward Wigglesworth in the *Archives of Dermatology*, January, 1876.] The patient, a Canadian farmer, aged 64, first noticed about thirty years ago, a small black pimple about an inch to the left of the umbilicus. In the summer of 1876 it began growing, becoming as large as a currant. Last fall, in consequence of injury, it commenced to discharge blood and burst through the skin. He tried burning with caustic, but without good result, it continuing to increase. Last spring it was strangulated with a horse-hair, but afterwards again began growing, uniting with three adjoining tubercles of a similar character, which appeared at this time, forming one large tumor, which at the time of writing (Nov. 20, 1877,) was four inches long, two inches wide, and one and a half inch thick, soft and of the form of a cauliflower, without any discharge, but having a most offensive odor. Slight lancinating pains in tumor at times. About the beginning of October, 1877, hard, colorless tubercles, varying in size from a pea to a cherry, formed under the integument all over the body, beginning on the right thigh. There are possibly 200 of these tubercles, some of which are movable under the skin. Those situated near superficial veins are of a pinkish color. Patient's general health has not suffered. The large tumor on the abdomen was removed by galvano-cautery, and patient is doing well without medicines.

Microscopical examination of sections of the tumor exhibited characters of sarcoma, round and spindle cells, which were in some parts pigmented.

Unilateral, Idiopathic Cutaneous Atrophy.—An interesting and unique case is reported (*Richmond and Louisville Med. Journ.*, December, 1877,) by Dr. J. E. Atkinson. The case occurred in a young white American of good general health. The affection began over eight years ago as a smooth, white spot, just below and to the left of the umbilicus. The spot resembles a scar from a burn, when viewed at a distance. This central patch is surrounded by others, small and discoid

or oval in shape. The skin around these spots is more pigmented than normal. This gives the affected surface a mottled appearance. The hairs are wanting. Posterior to this is another pigmented patch accurately limited by the median line behind, upon which are also a number of the small, white spots. The left thigh and leg are also partially pigmented. The subcutaneous veins of the affected surface appear large and tortuous, which is doubtless due to the atrophy of the skin tissue. There has never been any infiltration, wrinkling or desquamation of the affected surface. The circumference of the affected thigh is less than that of the healthy one, as is apparent on inspection, and shown by accurate measurements. Sensation and surface temperature apparently normal. The author attributes the affection to some disorder of the spinal (trophic?) nerves. and compares it to partial unilateral atrophy of the face, as it was strictly limited to one side of the body.

A case of **Circumscribed Cutaneous Atrophy** from traumatism is reported by Dr. Kolaczek (*Deutsche Med. Wochenschr.*, Schmidt's Jahrb., 1877). The patient, a girl, aged 20, had, at the age of 11, fallen against a corner of a stove, striking her forehead. Two years later, a yellowish point was observed near the median line on the right side of the forehead; during the year this continued to extend upward and downward, until at the time of examination a line could be seen extending from the supra-orbital ridge to the coronal suture, corresponding to the course of the frontal artery and the median twig of the frontal nerve. The skin over this was thin and wrinkled, its sensibility was diminished, and the underlying bone atrophied.

The Scrofulides is the subject of a lecture recently delivered by Professor Hardy, of Paris (*Canad. Journ. of Med. Sci.*, February, 1878.) The confident tone in which the Professor begins led us to expect that the confusion surrounding the subject would now be dissipated, and when we read a little further on that "to-day we are thoroughly versed in these diseases, and freely recognize not only their general characters, but also their different varieties," we felt sure of it. But the melancholy fact soon becomes apparent that the nearest

approach to the promised description is a rather vague reference to the symptomatology and terminations of certain forms of lupus, which, in the light of our present knowledge, can no longer be looked upon as having any necessary connection with scrofula, even if the latter condition were clearly defined, which it is not. Professor Hardy concludes as follows: "Lastly, in scrofula, even when cure of the ulceration has been obtained, there still remains a something which enables us to recognize positively the nature of the disease, and that is the cicatrix!" This is nearly as wonderful as diagnosticating small-pox by the odor before getting within smelling range of the patient!

The Recognition and Management of the Gouty State in Diseases of the Skin.—Dr. L. D. Bulkley read a paper upon this theme before the meeting of the American Medical Association, 1877 (*American Practitioner*, November, 1877). He thinks his experience in the treatment of cutaneous affections, which has been extensive, entitles him to conclude that a gouty state or habit of body is responsible for the origin of many of these diseases—especially among the upper classes. He recognizes the condition of defective assimilation termed by Murchison *lithiasis*, as an expression of the gouty vice, and states that mere local treatment of skin diseases in these conditions will not suffice for a permanent cure, with which opinion we may coincide without necessarily committing ourselves to his view of causation.

Dr. Bulkley gives extended directions for the *management* of this gouty state which are summed up as follows: "In the early stages of the systemic changes recognized as tending to the production of the gout, more is to be expected from diet and hygiene, exercise, bathing, friction to the skin, &c., with the occasional use of the milder alkalies and laxatives, such as mineral waters judiciously used. In the later stages, where the more commonly known manifestations of gout have already developed, and where the acid-blood state is fully formed, the management must embrace the measures serviceable in ordinary gout, including diet, hygiene and medicine, if sure or permanent relief is expected to the disease of the skin, which is one of its manifestations."

[The gouty state upon which Dr. Bulkley lays so much stress does not seem to be so clearly expressed in the South as it apparently is in New York. I am sure it is not common in this city, and further South it seems to be still more uncommon. Dr. F. Peyre Porcher, of South Carolina, says in a recent letter to the writer: "True gout is a very rare disease is Charleston." It is unlikely that this difference should be altogether due to climate; probably the different habits of the people in the two sections have more to do with it. Thus the consumption of articles which retard tissue-metamorphosis, such as tea and coffee, is, within my experience, much greater in the North than in the South. Whether this has any influence in the production of lithiasis or the gouty state, is an extremely interesting question.—REPORTER.]

Action of Arsenic in Pemphigus.—Dr. Bulkley, from his experience in five cases, considers arsenic a specific in chronic recurring pemphigus. He reports a case (*Amer. Jour. Med. Sci.*, Oct. 1877, p. 408) in which the energetic administration of the remedy appeared to save life on two occasions. He begins with four-drop doses of Fowler's solution every four hours, increasing by half a drop every alternate dose. The improvement is rapid and striking.

He cites a number of cases from Hutchinson, Veiel, Wilks and others, where the effects of the remedy were as favorable as in his own cases.

Iodic Purpura.—Fournier describes (*Rev. Mens. de Med. et de Chir.,—Clinic, Dec.* 22, 1877,) a form of purpura following the administration of iodine. Three cases have come under his observation. The eruption consists of scattered miliary petechiæ occupying the anterior surface of the thigh, not accompanied by general symptoms, appearing after the use of the iodine has commenced, increasing with the dose and disappearing after stopping the medicine.

Fissure of Anus, Nipples &c.—Bulkley (*Arch. of Dermatology, III.* 4,) uses a pencil of lunar caustic in fissures of the anus, nipples, lips, &c., and follows it by an ointment of unguent hydrarg., and ungent belladonna, equal parts. Painting the fissures with collodion or liquor. Gutta percha is also of use.

Clinical Reports.

Ovariotomy—Dermoid and Cysto-Sarcomatous Degeneration—Exceptionally Rapid Development of Tumor—Visceral Adhesions—Speedy Recovery. By T. CHALMERS DOW, M. D., Professor of Gynæcology and Diseases of Children, Nashville Medical College, Nashville, Tennessee.

My attention was first directed to Mary Scott on the 15th November, 1877. She was a light mulatto, æt. 40 years, native of Tennessee, normal weight 125 pounds; height 5 feet 5 inches. She stated that her general health had always been good until recently; that she had conceived eight times; carried four children to full term; and had four miscarriages at about six and a half months of utero-gestation. She was first confined in her twentieth year. At the present visit, she showed the result of her last—a healthy female child, aged eight months. She is a good representation of the "family servant" class of the Southern States, intelligent, refined, etc.

During her last pregnancy, she had felt no unusual inconvenience, and passed through her confinement without much trouble. In a few days, she noticed the presence of a tumor in left iliac fossa, about the size of a fœtal head at full term. This continued to develop rapidly, and at the time of my first visit to her, had attained such proportions as to greatly inconvenience comfort, locomotion, respiration, etc.

The *facies ovariana* was most typical in her case—the lineaments elongated and shrivelled. Care and anxiety strongly marked; emaciation of neck and shoulders considerable. There was some œdema of the inferior extremities. The abdominal parietes had become quite thin, the lobulated, anterior surface of the polycyst being easily distinguished at this stage. She had been taking scarcely any exercise for some weeks. Her general system showed the evidences of dyscrasia. There was great polydipsia. Her *morale* was far below par.

In view of these conditions, she was placed on treatment, preparatory to ovariotomy, such as quinine, iron, dietary regimen, gentle exercise; this was maintained for more than two months. By the end of January, her vital forces had improved somewhat, though there was a marked increase in the size of the tumor; so tense had the abdominal walls become, that rupture of the sac seemed imminent.

On the 31st of January, the operation was performed. As-

sistance was ably rendered by Profs. Duncan Eve, J. J. Abernathy and D. J. Roberts, of the Nashville Medical College, also Mrs. S. C. Hoge of this city, a student of medicine. The patient passed under the influence of ether quickly. The usual exploratory incision in the *linea alba*, showed the amount and character of adhesions. The sac was now punctured, and the fluid contents, consisting of dark brown material, highly albuminous, were drawn off and preserved for weight and examination. The adhesions were five or six in number, and consisted of firm bands, very vascular; most of them had omental attachments; so firmly connected were two of these attachments, that they had to be divided with the bistoury and tied together with one ligature. The pedicle of the cyst was broad and short; great vascularity existed. The exploratory incision was lengthened to seven inches, it being found impossible to remove the solid contents of the tumor through a smaller opening. The pedicle was firmly clamped and the catgut ligature strongly tied around it. It was then divided, and the actual cautery was applied to the stump. The pedicle was then returned to the abdominal cavity. While the viscera were being sponged, profuse hæmorrhage suddenly occurred. A hasty investigation revealed the fact that the animal ligature employed had become softened and slipped off the pedicle; it was now secured with a ligature of Chinese silk. Much careful sponging was required to remove all blood clots. The ligatures were brought out at the lower angle of the wound. Seven silver sutures were deeply passed and the abdominal incision carefully adjusted. She was then carried to an adjoining room, comfortably placed in a warm bed, and all possible precautions taken to guard her from the very inclement weather which prevailed. There was some nausea caused by the ether; scarcely any perceptible shock manifested itself. Reaction came on immediately, and she passed a comfortable night. The pulse ran high, averaging 115 for several days—seemingly the result of nervous excitement, as there was no febrile action established.

About the third day after the operation, there was developed some tumefaction at the site of the wound; this soon vanished, however, the bowels becoming soft and flacid. Appetite and spirits improved materially. There was an abolition of the excessive thirst which had so greatly annoyed her since the first appearance of the neoplasm. She got well, as it were, by the "first intention;" walked about the house in a fortnight, and in three weeks was assisting in household duties.

The fluid contents of this tumor were highly charged with albumen, as determined by Mr. Paul F. Eve, of the medical class, viz.: 60 per cent. The weight of the entire sac aggregated within several ounces of thirty-two pounds. The dermoid portion was typical, containing smeary masses of cast-off epithelium scales and sebaceous fluid, yellow fatty grease and numbers of hairs of a reddish, blonde color. These hairs were very fine in their texture, and averaged an inch and a half in length. No teeth nor bones were discovered, but some other tissues were observed, which seemed muscular in character. This dermoid degeneration was situated nearest the pedicular attachment, the cysto-sarcomatous occupying an intermediate relation. The external surface of the sac, on being exposed to view, was seen to be studded with sub-cysts resembling blebs, containing transparent albuminoid matter semi-solid in consistence.

Perhaps it might not be amiss to refer to the catgut or animal ligature, carbolized, as it is now kept in the shops. In a case, the analogue of the one under consideration, operated on in May of 1877, the animal ligature was used, and the same trouble experienced, as in the present case—the ligature breaking and slipping. By waxing it thoroughly and making several knots, it maintained its hold, undergoing absorption, the patient recovering in three weeks, and being able to return to a distant State at the end of a month from date of operation.

The silk would seem to answer in every case where the pedicle is returned to the cavity—giving rise to very little irritation, even when retained for a half dozen weeks, as in a case observed in 1876. The danger of the animal ligature slipping is one we cannot guard against. When the pedicle is as highly supplied with vessels, as is the rule in tumors of large size, hæmorrhage is liable to supervene for many hours after ligation with the catgut, and carry off the patient in a few moments.

In the case here reported, stress is intended to be laid on the careful preparation of a patient for ovariotomy, by the administration of quinine and iron for some weeks or even months before operating. Of course it is equally as important afterwards, especially in a Southern latitude. In the case of Mary Scott, the good effects of these agents were

manifest, and can, perhaps, explain her swift recovery, without peritoneal or septicæmic involvements, this, too, in the face of the copious hæmorrhage that flooded the abdominal cavity and viscera when the ligature slipped, necessitating such thorough sponging.

The silver sutures were removed on the twelfth day; the ligatures came away on the forty-fifth day; her menses appeared on the thirty-first day.

This speedy and happy convalescence can best be described by quoting from the greatest of ovariotomists, T. Spencer Wells, in referring to one of his cases at the Samaritan Hospital. His remarks are so true to nature, that they are presented without apology.

"The young girl whom you now see, looking so well and happy, is hardly to be recognized as the same person, from whose abdomen, some of you saw me remove only last Monday, an ovarian tumor, which weighed more than forty pounds. A week ago, she was a pale, emaciated girl, with the anxious, suffering expression, the compressed elongated lips, the depressed angles of the mouth, the deep curved wrinkles around them, the widely-opened, sharply-defined nostrils, the prominent cheek bones, the sunken eyes, the furrowed forehead, so often seen in the subjects of ovarian disease, pointing to not only such a loss of fat as leaves the bones and muscles almost as perceptible as if they had been dissected, but also to something more—to the heavy weight the patient has had to carry in a situation, impeding respiration and preventing free action of the diaphragm—for the tumor encroaching on the thoracic cavity, displaces both lungs and heart, and interferes with their functions. Now, all this morbid physiognomy has disappeared. It disappeared, indeed, a few hours after the removal of the tumor. Even a casual observer would then have seen that the girl had been relieved of a great load; and since then, day by day, as she has had to speak thankfully of quiet nights, of unwonted freedom of respiration, of absence of pain and of returning appetite, so have we seen the color return to her lips and cheeks, the eyes brighten, and the furrows and wrinkles of premature emaciation begin to disappear, as the body has again begun to be nourished, since the drain upon the system, caused by the rapid growth of the tumor, has been stopped. At first the sudden removal of such a strain seemed to be almost too much for the system. It seemed as if it were difficult for

heart and lungs to play with even balance, under so much lighter a task; the pulse was a little hurried, the face flushed, the skin rather hot. But soon we had a free perspiration and all went well."

Ovariotomy or oophorectomy (Peaslee) of our time has a brilliant record. Only a dozen years since, it was still necessary to adduce arguments in its defence, proving that it was a justifiable operation. Performed, as it has been, in every civilized country, it is now fully justified and established for all time. It serves but to amuse one, when the eye meets with some of the fulminations thundered against it, a score of years since, and this in the land of McDowell, himself, and after so long a period had elapsed since his own great successes.

In the Report of the Standing Committee on Surgery, read before the Kentucky State Medical Society, October, 1853, by Joshua B. Flint, M. D., Professor of Surgery in the Kentucky School of Medicine, the following language is used:

"Some thirty years ago, the medical mind was startled by a number of reported recoveries, after new and dangerous operations, in the hands of a rough practitioner, on this side of the Alleghany mountains. That evil genius of surgery, the *cacœthes secondi*, ever on the lookout for some novel and bloody employment, eagerly seized upon ovariotomy, and it forthwith became the rage. Every surgical adventurer was upon the lookout for these interesting abdominal tumors, and even some of the conscript fathers of the profession were dazzled for a time—few of them more than once—by the glories of the *sectio major*.

"If our countryman, McDowell, was really the 'father of ovariotomy,' as the *Transactions* of this Society assure us he was, and if we receive his own account of the performance in the first instances, there never was an operation introduced in a more unsurgeonly manner, nor one whose parentage was better calculated to impress upon it that character of recklessness, and that contempt of the counsels of pathology and diagnosis, which have kept it in the category of questionable expedients, in the judgment of prudent and experienced practitioners to the present time. That such is, indeed, the estimation in which this dangerous operation is held by the masters of our art; that it has not been admitted to a place among the legitimate therapeutics of surgery, is most signifi-

ficantly indicated by some of the facts presented in an elaborate table, prepared by a much abler ovariotomist than Dr. McDowell, and published in the fourth volume of the *Transactions of the American Medical Association.* That table professes to record the most important particulars of all the known operations of ovariotomy performed during the first half of the present century, comprising two hundred and twenty-two cases.

"It is remarkable, that among the men who, according to this table, have sought to distinguish themselves by this operation, we do not find Dupuytren, nor Delpech, nor Lorrey, nor Roux, nor any of their illustrious contemporaries in France—nor the Hunters, the Coopers, the Bells, Abernethy, or even Lister among British surgeons—nor Physic, nor Post, nor Mott, nor Dudley of our own country, although it can scarcely be doubted that all of them had frequent opportunities of so doing."

Shade of the mighty McDowell! Canonized now as the father of ovariotomy, for that great boon to the profession and womankind! What see we of to-day? Ovariotomy is accepted everywhere. We see the "greatest of ovariotomists," who, commencing his wonderful career in February, 1858, has, up to the period of this writing, operated over eight hundred and thirty times with marvellous success. We see that in 1876, Professor Hegar, of Freiburg, performed sixteen successful ovariotomies consecutively. In America, Sims' first ten cases were all successful, and the labors of Atlee, Kimball, Dunlap and Peaslee, with their great percentage of recoveries, shed abundant lustre on the land where ovariotomy had its birth, and whence the first volume, devoted exclusively to ovarian tumors (Peaslee), appeared.

Piece-Meal Removal of Fœtus—Chloroform to Accelerate Labor. By JOHN W. DILLARD, M. D., Riverville, Va.

The following case occurred in the practice of a neighboring physician:

Harriet T., colored, age 39 years, multipara, was taken in travail, at full term, on Sunday morning, April 21st, 1878. *Une sage femme*, of imputed celebrity, was immediately summoned. She remained with her patient until Monday even-

ing, when, finding her efforts at delivery were quite futile, my friend, Dr. J. C. Mundy, was sent for. Upon his arrival, he recognized the gravity of the case, and requested that I should be called in. The child was dead, and lying in a transverse position—the first left-shoulder-position of Meigs—with prolapsus of left arm, and the hand presenting at the vulva. The woman's abdomen was unusually large, and the genitalia were much swollen and tender. There were no labor pains, the uterus having passed into a state of inertia. So great was the hyperæsthesia of the external parts, that she would not allow the slightest touch. One ounce of whiskey was given; Squibb's purified chloroform was then administered to complete anæsthesia, by Dr. Mundy, who requested me to manipulate. Podalic version was attempted by introducing the left hand beyond the presenting shoulder, when further progress was prevented by the most powerful spasm of the womb, about its middle segment, that I ever felt. My hand was so completely benumbed, that I began to feel somewhat anxious about getting loose. We could not prevent the recurrence of this spasmodic contraction of the womb by any means in our device. Being defeated in my attempt at turning, I, with my friend's pocket-knife as a scalpel, amputated the arm at the scapulo-humeral articulation, which gave more room to use the hand *in utero*, but with the same result as before. Evisceration was then decided upon as the best means of delivery. In the performance of this operation, I found Bedford's perforator and the crotchet all that were necessary for the removal of the soft parts, while Meigs' craniotomy forceps were used in tearing loose the costal attachments. Now, with the blunt hook, I succeeded in making traction enough to double the child as it were upon itself and delivering. The thus mangled child was a very offensive mass. This woman was kept in a state of surgical anæsthesia for about three hours, and the amount of chloroform required was three ounces. The woman recovered promptly and showed no bad effects from this prolonged administration of the drug. Puerperal peritonitis supervened, and she died on the fourth day after her delivery.

The entire want of control of chloroform over the uterine spasm, in this case, strengthens my conviction that Mr. Leishman is right in thinking that the cautious use of this agent, even in natural labor, tends rather to accelerate its progress than impede it, and "in the hand of the skillful practitioner, it is a power for good and never for evil."

Some Cases of Fæcal Obstruction, and their Treatment. By D. W. FOSTER, M. D., (near) Ville Platte, La.

Case I.—Soon after commencing practice, I was called to a little old man who had taken calomel, rhubarb, aloes, oil, salts, etc., to open his bowels. His sufferings for a day or two had been intense, but now his sensibilities had become obtunded by exhaustion. Dr. Spurlock was called in, who administered James' powders to produce relaxation. I was called in the next morning, and injected about a gallon and half of warm water, which was prevented from returning by forcible pressure on the anus. I then sat him (up to his arm pits) in a large tub of hot water, and he soon sank into a semi-syncope, when I discovered castor oil (which his wife had a day or two given him by the mouth) floating on the top of the water in which he was sitting. But the syncopal attack of the patient, the skin over the abdomen appearing livid, the doughy feeling of the bowels, and my inexperience at the time, led me to make an unfavorable prognosis; and the old Doctor and I even went so far as to solicit an autopsy of the wife when the patient was dead, which she had promised. But the next day, she sent to know if she might give him some ginger cake, as he craved some. Of course the wish was complied with. The injection relieved the obstruction, and nature restored the man to health.

Case II.—A few years later, I was called to a tall, slender young man, with similar difficulty, and suffering agony. I gave him belladonna, and put him in a hot bath, up to his arm pits, and afterwards covered him (except his face) with blankets. His system soon relaxed and he was relieved.

Case III.—A few years later still, I was called to an overseer who had been five or six days under other Doctors. Prognosis was most unfavorable. Death resulted in a short while [Dr. F. fails to give the symptoms, and to state whether this patient was treated by him or not—*Editor*]. At the autopsy, I found that the accumulated scybalæ in the caput coli had set up inflammation, which had glued all the bowels in the neighborhood into a mass, which was black with mortification and all broken down, and pus had formed and pointed against the abdominal wall. The gall bladder was distended with black inspissated bile, and there was lodged in the cystic duct, large, round masses of black inspissated bile, as hard as chalk, an inch and a half long, doubled up in the gall bladder. I suppose the absence of healthy bile in the intestines

caused the constipation and accumulation in the bowels, which ultimated in death from inflammation and mortification.

Case IV.—Not long afterwards, I was called to the treasurer of this State, who was a large, full-blooded middle-aged gentleman. He had fever and watery diarrhœa, and his other symptoms showed that he had fæcal obstruction. I gave him belladonna and ipecac until his system was relaxed, and then with a Davidson's syringe, I pumped him full of warm water, and succeeded in bringing away a large quantity of hardened fæcal matter. Although by no means a phlebotomist, the general condition of the patient called for bleeding. After abstracting a few ounces of blood from the arm, all inflammatory indications were allayed and he soon recovered.

Case V.—During the war, a young soldier applied to me for treatment about a week after symptoms of obstruction began. I put him on similar treatment as the last case, with similar results, with the exception that the inflammation had dipped down and formed an abscess, which obscurely appeared to point just above the crest of the ilium. I introduced a straight pointed bistoury, and directed it to impinge the very crest of the ilium; then elevated the point and pushed it the thickness of the bone further, but no pus followed. I then exhausted a glass tumbler over the incision, when a large quantity of matter gushed out. The abscess discharged pus for several weeks, but he finally recovered entirely, and had perfect freedom of his legs.

Many others of similar nature, I have since treated successfully with chloroform and castor oil—both in full doses—mixed and given internally. I now believe chloroform and oil to be the very best treatment that can be used—chloroform enough to relax all spasm, and oil enough to lubricate and pass out the scybala.

Singular Discharge from a Submaxillary Abscess. By J. MICHAUX, M. D., Cedar Point Landing, Va.

D. G., colored, age 35, an active, apparently healthy and industrious man, last summer complained of sore throat, and was treated, but without relief. A few days later, I found him with fever, bilious and suffering great pain about the throat. He could scarcely swallow, and was unable to open his mouth sufficiently to examine the fauces. There was a swelling just under the submaxillary gland. A mercurial

purgative was given, after which his condition was improved for several days. He then grew worse, and sent for me again. He was now suffering more pain than at the previous visit—almost unable to swallow or to make himself understood in conversation, and he was greatly alarmed. During this visit spontaneous rupture of the abscess relieved him. A few days later, however, I found him suffering almost as much as before. Examination revealed fluctuation in the again enlarged gland, beneath the submaxillary, which was punctured externally with relief on the discharge of the pus. A poultice was applied, and in a week or two, he was well again. A few days later, however, he brought me a round, gray, softish body, about the size of a sparrow's egg, apparently phosphatic in composition, and which, he said a ten-cents silver piece had drawn out through the internal opening—he having slept with the dime in his mouth for that purpose upon the recommendation of his brother. His teeth on the diseased side had previously given him trouble, and possibly the curious formation may have been due to caries of a tooth.

A Case of Cleft Palate Lip and Superior Maxillary. By R. C. CUNNINGHAM, M. D., Verona, Miss.

On the 5th of May, 1878, I was called to operate on a female child, daughter of Rev. Robt. Wear, of this (Lee) county, Miss. Upon examination, I found a frightful chasm, through the upper lip and superior maxillary bone, fully seven-eighths of an inch in width, extending through the palate on the left side of the mouth—the floor of left nostril being entirely wanting. The left fragment of the superior maxillary bone was depressed half an inch below the right. The cleft extended from the frænum of lip to the left side, and altogether presented a hideous appearance.

After quieting the child with chloroform, and taking her in my lap, with its head between or upon my knees, I made a free dissection of the soft parts from the fragment of bone of the left side; I then dissected up the lip from the right side, and then made a concave cut in each side of the cleft in the lip. The wound closed by a suture at the base, and another at the summit of the proposed line of union. A hare-lip pin was then introduced through the middle, midway between the sutures and firmly closed by a figure of eight ligature. The wound was then covered by narrow strips of isinglass plaster, which completed the dressing.

On the 4th day after the operation, perfect union by first intention had occurred, but the pins and sutures were allowed to remain till the 8th day, when they were removed, and perfect union had taken place. The child now presents a greatly improved appearance; in fact, except that one side of the face is a little lower than the other, it would not be suspected that any deformity had ever existed.

I would state that chloroform was freely exhibited throughout the operation (which was not performed hurriedly), and the child bore it remarkably well—breathing naturally all the while, until just at the close, when the breathing became a little difficult and stertorous; the child, however, promptly recovered from this by sprinkling a little water on its face. The hæmorrhage was pretty free from the coronary arteries, which were divided on either side of the cleft, but this was promptly checked by the introduction of the pin and the pressure made by the sutures around it.

A Case of Spina Bifida, with Recovery. By M. D. JEFFRIES, M. D., Culpeper, Va.

I saw with Dr. R. S. Lewis, about the 4th of October, 1876, Mrs. P——, aged about 26, a robust, healthy woman. She was in a condition of extreme nervous prostration; mind considerably impaired, fretful and childish, ready to shed tears on the least provocation; she was not able to bear the least light in the room; she suffered partial anæsthesia of the entire surface of the body, and had constipated bowels—all being the effects of a heavy drain on the nervous system. The pulse was small and weak; temperature below normal, (no thermometer being used). About the 5th lumbar vertebræ there was a tumor about three inches in diameter, with a sunken centre and contracted base, from which came the clear serum of the spinal cord. The patient retained a lateral decubitus.

The history of the case was as follows: She was taken in her first labor about a week before she was seen by the writer. The labor was difficult and tedious on account of an antero-posterior contraction of the pelvis; the coccyx projecting forward. The tumor in the lumbar region which had existed from birth, was about the size of an infant's head and increased as labor progressed, finally breaking, though support was given it to prevent this accident. It discharged a large

quantity of serum, which had continued to flow constantly from that time till I saw her. The nervous symptoms above enumerated set in within a few hours after the tumor broke.

The treatment used was pressure on the tumor made by means of a convex leather pad, besides bathing the part with alum water. The nervous symptoms were treated by the use of stimulants, alcoholic and nervous: opiates were constantly required. The patient was nourished by Valentine's Meat Juice, the stomach rejecting almost everything else.

In one month the flow of serum had nearly ceased, stopping for a few days, and then flowing again. The patient suffered intensely when there was no flow, seemingly from the accumulation of serum in the spinal canal. This continued for about two weeks, when it entirely ceased and the patient continued to improve slowly, under the use of iron and strychnia. In April, 1877, she was able to ride out, and now, June 1st, 1878, she is apparently a healthy woman, having just been delivered of her second child, with no great difficulty, and is doing well.

The special interest connected with this report of this case consists in the fact of the great rarity of recovery from this condition. So far as I have been able to examine the literature of the subject, mine is the third case reported to have recovered.

Original Translations.

Translations from the German and French. By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

Commotion of the Spinal Marrow—Phenomena of Localization.—M. Duplay recently delivered a clinical lecture, with this title, at the Hôpital Saint Louis, which is reported in *Le Progrès Mèdical* for June 15th, 1878.

The patient, on whose case the lecture was based, was a man forty-seven years of age, who, up to seven weeks before the date of the lecture, was in excellent health. At that time, he had a fall from a height of a little more than six feet. His limbs and body were so flacid that the whole shock was received on the pelvis. He got up immediately, and was able to walk about, and even returned to his work. During that day he had no desire to urinate, but twenty-four hours afterwards, when he endeavored to empty his bladder, he found it impossible to do so, in spite of frequent and violent efforts.

The urine was withdrawn by a catheter, and this had to be continued regularly for three weeks. After that time, it was possible, by great exertion, to empty the bladder without artificial aid. The quantity discharged at each time was small, but the calls were very frequent. There was some pain in the urinary organs, and the urine itself had an ammoniacal odor. In addition to these urinary troubles, there existed obstinate constipation. It was impossible to get an action from the bowels, except by the use of purgatives or enemata. Furthermore, there was, immediately after the accident, an increase of sexual appetite, but after the first week there were no erections, and the sexual appetite was lost. On careful examination, no "material cause" could be found for these troubles, so far as the genito-urinary organs or bowels were concerned, and it was evident that the symptoms were due to paralysis (at first complete) of the bladder and rectum. It was evident, however, at the first glance, that there was no very grave lesion of the cord. The spinal column presented no trace of injury, and furthermore, the functional troubles were strictly localized. The limbs were perfectly free from paralytic symptoms. If there existed, therefore, any spinal trouble, it must be slight, and of a nature analagous to cerebral commotion.

There are two forms of this medullary commotion:—(1) Under the influence of violent shocks, such as a fall from a great distance on the vertebral column, or in a railroad injury, there are produced *immediately* certain phenomena, the nature of which depend on the part of the cord subjected to the shock. As a general rule in such cases, the bladder, rectum and lower limbs are all paralyzed. The result after such accidents is variable. All the symptoms may disappear entirely after a short time, and in these cases, there has been a simple shock without material lesions. In other cases the symptoms are more persistent, and in these cases there is usually a hæmorrhage into the cord due to the bursting of some of the small blood vessels. Finally, inflammation of the cord may ensue and lead to the permanent changes found in chronic myelitis. In a few cases, atrophy of the cord, localized in extent, may occur, and in these cases the patients continue for a length of time in the same condition.

(2) In a second form of commotion, most frequently observed as a result of shock from railroad collisions, the troubles do not develop themselves till some time after the receipt of the injury. It may be some days, some weeks, or even some months, before the least functional trouble is observed.

The phenomena of myelitis then make their appearance. Physiology has taught us that there exist in the spinal cord centres regulating the action of the bladder, rectum and genital apparatus; and we learn from pathology that if the lumbar portion of the cord be injured, the functions of the bladder, &c., are interferred with. Examples of localized troubles of this character, as a result of injuries, are very rare.

With respect to the prognosis in such cases, the physician has to be very guarded. In the early stages it is impossible to say with certainty what the result will be, and even when some improvement has taken place, it may stop very far short of complete recovery.

With respect to treatment: The bladder should be emptied twice daily with the catheter and frequently washed out. The bowels should be opened by enemata or mild purgatives. Treatment should also be directed to the cord itself. Unhappily, it is generally difficult to do much in this direction. As no inflammatory phenomena are present, antiphlogistic remedies are not indicated. Blisters are often of service. Hypodermic injections of ergotine will arouse into action the muscles of the bladder. The preparations of strychnia are often serviceable, and hydro-therapie deserves a trial. Finally, Onimus and Legros advise the continuous current as a last resort.

Ligation of the Common Carotid Artery.—M. Denucé (of Bordeaux) reported a case of this character at the meeting of the Académie de Médicine, on the 11th of June last (*Le Progrès Médical*, June 15th), which terminated in recovery. The following heading gives a fair idea of the nature of the case. "External otitis; consecutive abscess in the temporo-facial region; multiple incisions; primary hæmorrhage in the temporal region, which was easily controlled; considerable secondary hæmorrhage at the end of fifteen days: transformation of the cavity of the abscess into a vast, diffuse aneurysm; threatening hæmorrhages from various openings: powerlessness of ordinary hæmostatics; ligature of the common carotid; recovery." The ligation of the common carotid caused none of the cerebral symptoms commonly observed in such cases, which was due, M. Denucé thought, to the extreme anæmia of the patient at the time of the operation. There were no inflammatory troubles even at the site of the operation, and no subsequent hæmorrhage in spite of the free anastomosis of the cerebral arteries. M. Denucé attributed this to the complete cessation of circulation for a short time during the operation, and then the feeble circulation afterwards—thus

allowing clots to form—perchloride of iron being used to facilitate the process.

Reflex Trembling in the Lower Limb on the Sound Side in Certain Cases of Hemiplegia.—M. Dejérine read an interesting paper on this subject, before the Société de Biologie, on the 1st of June last (*Le Progrès Médical*, June 8th, 1878). Trembling in the lower limb, on the paralyzed side, under certain conditions, has been observed time and again, and is known to writers on nervous diseases as "reflex trembling of hemiplegias." All that is necessary to produce this form of trembling on the paralyzed side, is to flex the foot sharply on the leg, when a series of rhythmical contractions are produced. Heretofore these contractions have only been observed on the paralyzed side; but M. Dejérine's investigations, which were most carefully conducted, show that it may occur on the sound side also under precisely similar circumstances. In fifty hemiplegias examined with a view of determining this point, reflex trembling on *both* sides was found in five, although on one side there was not the slightest motor or sensory impairment. The explanation of this phenomena is as yet shrouded in mystery. M. Gubler remarked that the trembling was due to irregular conduction of nerve force [and this is the view usually adopted]; but what the cause of the defective conduction is in these cases where there is no motor disturbance, is unknown.

A Case of Glycosuria and Fatty Degeneration of Internal Organs after an Injury to the Brain.—This interesting case was reported originally by Dr. Kirnberger, in the *Deutsche Zeitschrift für Prakt. Med.*, No. 41, 1877. The following history we take from the *Rundschau* for June, 1878:

A man fifty-one years of age, previously in good health, fell on the pavement in the early part of December, 1874, striking the back of his head. He was unconscious for twenty-four hours, and when consciousness returned, it was found that he was perfectly blind and had lost the sense of smell. He suffered with violent headache, and there was partial paralysis of the upper and lower extremities on the left side. On examination, there was found to be a depression of the occipital bone on the right side, and also of the adjacent part of the parietal bone. The depression was about one inch in diameter. The pulse was slower than normal. The paralytic symptoms rapidly disappeared and vision improved. In June, 1875, the patient had so far recovered that he was discharged from his physician's care.

At the end of May, 1877, he again consulted Dr. Kirnber-

ger for œdema of both lower limbs. An examination made at this time showed that his pulse was weak: the heart was enlarged and there was a "systolic murmur" at the apex. The urine was abundant: specific gravity from 1010 to 1012: it contained albumen in considerable amount, and nearly one-half per cent. of sugar: in the sediment were some epithelial cells and a few tube casts. On inquiry, it was found that the patient's appetite had been ravenous for some time, and he had suffered very much from thirst. For some time this condition remained the same. About the middle of June the liver was found to be considerably smaller than natural: the spleen was not enlarged. On the 2d of July, hæmorrhage from the bowels occurred, and the patient sank immediately.

At the autopsy a fissure was found extending from the seat of the injury on the right side across to the left side of the skull. The dura mater was thickened and adherent. In the right side of the occipital fossa was found a large, old, apoplectic clot; on the left side a similar clot; on the lower part of the central portion a third, and a fourth in the front part of the skull [the exact locality is not mentioned]. The optic nerves were slightly atrophied. The heart was hypertrophied, and its valves on the left side slightly insufficient. The liver was in a state of fatty degeneration. There was some chronic catarrh of the stomach. The mucous membrane of the bowels was normal; the pancreas had undergone a slight degree of fatty degeneration: the kidneys were very fatty.

The questions to which Dr. Kirnberger endeavors to obtain an answer are (1) What was the primary cause of the sugar formation in such quantities as to cause its appearance in the blood and urine? (2) In what relation did the fatty degeneration of the different organs stand to the glycosuria?

With respect to the first question, he thought that the increased secretion of urine and the concomitant troubles—degeneration of the epithelium of the kidneys and formation of sugar and pus—were due to the injury to the nerve centre and the consequent defective action of the splanchnic nerve. He stated that diabetes was, in his opinion, an affection of the vaso-motor nerves.

After careful consideration, he did not think the fatty degeneration was due to the increased consumption of sugar, since in his case the urine was not increased—indeed, it was even diminished in amount, whilst the uric acid, which in diabetes is present only in small quantity, was considerably increased, which was evidently due to a retardation of the metamorphosis of the tissues. The proper explanation, he thought,

was to be sought in the brain lesion itself, which had greatly lessened the nerve power. If the injury to the brain was the primary cause of the increased formation of sugar, it was likewise the cause of the profound changes in the internal organs which have been described.

Correspondence.

Tying Knots in Surgical Operations—Again.

Mr. Editor.—In your July number, Dr. John M. Thompson, of Silver street, S. C., has been kind enough to correct my article on Tying Knots, and also to imform me that Druitt & Gross both publish the method. I am obliged for his correction and information. The heading of the article, as supplied by you Mr. Editor, only claims that it is new. In conclusion, I said "As I have never seen this method used, except when I advised it, I think it might be new to some of the readers of the *Virginia Medical Monthly.*" That it has been new to some of them I am satisfied, and am quite willing to yield to Dr. Thompson and as many others as may desire it, the honor of a previous knowledge of the method. Gross, published in 1861, gives an illustration of what he calls the "Surgeon's Knot" which is made by passing one end of the cord twice under the other. He speaks of this as being a clumsy affair, which it certainly is in this incomplete condition. Druitt, published in 1851, gives an illustration of this "Surgeon's Knot" without description or comment. Pancoast (1846), Malgaine (1851), Perrie (1852), Bernard & Huette (1861), Holmes (1864) and Erichsen (1873) make no mention either of the "Surgeon's Knot" or the knot recently mentioned in the *Monthly.* I am very sorry that I have not access to recent literature, as it would have saved, among other things, some valuable space in your journal, but I am not so fortunate as to live where streets are made of silver, and can only get a new book occasionally.

Jesse Ewell, Jr., M. D.

Hickory Grove, Prince William Co., Va.

A Cheap Febrifuge and Diaphoretic.

Editor Virginia Medical Monthly.—In these days of high priced quinine and days when doctor's bills are hard to collect with many of us in the Southern country, anything which will substitute the sulphate, at half the cost, is eagerly sought after by the practitioner. I herewith append a prescription which I received from an old practitioner of great skill in the healing art a few years since, and which I have prescribed ever since, with great success, in remittent and other fevers where the quinine and sedative effect were indicated.

℞. Sulphate cinchonidia.....5i.
Elixir vitriol.....3i.
Veratrum viride (Norwood's).....gtt. x.
Tr. gelsemini.....5ij.
Tr. aconite.....gtt. xv.
Aqua pura.....3ij.
Simple syrup.....3ij.

M. S.: To an adult, one teaspoonful every three hours in a tablespoonful of water or tea until the desired effect is reached. For children, small doses according to age.

Truly,

M. D. C. M. SUMMERLIN, M. D.

Sun Hill, Ga., June 28, 1878.

Proceedings of Societies.

Richmond Academy of Medicine.

(Reported by Charles S. Brittan, M. D., Secretary.)

July 2.—**Case of Hydrophobia due to a Scratch from the Claw of an Owl, not Rabid.**—Dr. James B. McCaw, Professor of Practice of Medicine in the Medical College of Virginia, reported the following remarkable case:

A white man, age 35, unmarried, of generally temperate habits, was under observation 20 days. When first called to the man, he had a nervous and despondent look, and said he did not know what was going to happen. Whenever engaged in conversation during the last day or two, his head was drawn to the left side, and his face and left arm would jerk in a strange way. On inquiry as to the probable cause

of these strange movements, he stated that a pet owl had struck him with its claw, some six or seven weeks previously, in the palm of his left hand, producing a slight wound only. The bird, at the time, was not angry, and is living to this day in apparently good health. The injury produced some pain, which, however, passed away in a few days—just as in the case of an ordinary scratch of the hand from other causes. But since the wound had healed, he had noticed that his hand was occasionally flexed, and he felt some pain of a somewhat neuralgic kind in the hand at these times, while a peculiar neuralgic thrill would also run up the left arm. The gentleman dreaded the thought, which had somehow become a suggestion to him before he saw Dr. McCaw, that this was a case of hydrophobia. He remarked that the general appearance of the hand had not changed since the moment the owl had clawed him. To relieve the general restlessness of the patient, and to produce sleep, which he was greatly needing, potassium bromide, grs. xx, was ordered, and within two hours he was to take a scruple more of the bromide. Soon afterwards, the Doctor ordered thirty grains of chloral hydrate. These remedies finally produced a little unrefreshing sleep. This line of treatment was kept up for three or four days, by which time, the left leg also became painful and began to twitch. In fourteen days, the whole body became affected. At this time, he would roam about the house and garden (on the suburbs of this city) constantly; he was sleepless, and had attacks of frenzy. During all of these frenzied spells, he seemed to be conscious of what he was doing, but was unable to control his thoughts or his actions, and was unmanageable by persuasion, and hence he himself begged to be put in a straight jacket, or else to be carried to an asylum, for he said he was crazy. Dr. McCaw had him dressed at once, and carried the patient in his carriage to the Pinel Hospital—a distance of about half a mile. On the route, he asked the Doctor if he was not afraid to ride with him, to which Dr. McCaw replied in the negative. The patient told the Doctor that he loved him, and appreciated his kindness to him, and begged to be restrained should he exhibit any violence towards himself or towards others. On arriving at the hospital, he was very thirsty, but when water was offered him, he could not swallow a drop of it, because of spasms of the larynx and pharynx. He was constantly spitting, or else the thick saliva was dribbling from the corners of the mouth. He was, after this, constantly attended by Dr. Jas. D. Moncure, the Superintendent of the hospital, and by Dr. McCaw.

He was given two drachms of chloral hydrate in two doses, which was administered through a tube passed down the nostrils in the usual manner when patients cannot or refuse to swallow. Calabar bean was also used. He was very violent when he got to the hospital, and hence a straight jacket was soon put on. The chloral and the calabar bean not relieving the intense suffering, hypodermic injections of morphia sulphate, in half grain doses at short intervals were used, which seemed to mitigate at least his fearful agony. He asked for a bath, but as he entered the bath room, the water was running from the hydrant into the tub, which noise produced the most violent spasms and the wildest delirium the Doctor had ever seen. Chloroform and amyl nitrite were freely used, but did no good whatever; but the constant use of morphia produced such relaxation of the system during the last four days of his life, that he was able to swallow semi-solids and ice-cream, and the spitting of saliva was very much lessened. He died on the tenth day after the active symptoms developed. These active symptoms were not the tonic spasms of tetanus or of spinal meningitis, and the risus sardonicus was not present. No *post mortem* was allowed.

If there is such a disease as hydrophobia, this case was more like that disease than any case the Doctor had ever before seen in a practice of thirty years, and more. If it was chorea, he never before saw the disease occur in one of the age of the patient. Neither was it hysteria. The gravity of the symptoms, the kind of mania and the fatal result alike forbid that opinion. If it was a case of rabies, it was rabies without the causative virus of rabies, for the claw of the bird has no secretory gland to eliminate such a virus; nor can it be said of the owl as is said of the cat, whose scratch sometimes produces hydrophobia, that the rabies was carried by virus from the mouth to the claw, because cats lick their paws, for that habit is not one to which owls are addicted.

This case confirms a belief that Dr. McCaw has held for years as to the mistaken views held by the whole medical profession, with few exceptions, as to the group of symptoms called hydrophobia being necessarily dependent upon a specific virus, spoken of by writers as that of rabies—a specific poison secreted by glands in the mouth of dogs, wolves and animals of kindred kind. The name of the disease—hydrophobia—is based on an error; the victim is not *afraid* of water—simply he cannot swallow it. Nor is the ejected spittle or saliva a poison, but is the ordinary secretion cast off to prevent the agony of laryngysmus.

At the next meeting of the Academy, held *July* 16, the regular subject for discussion being *Hydrophobia*, Dr. McCaw incidentally remarked that he wished simply to define his position on the question under consideration, which has been misjudged by some, from the remarks made at the last meeting, while reporting the above case. He does not deny the existence of a cerebro-spinal irritation, with the train of symptoms and consequences to which the name of hydrophobia has been given; but he does doubt the truth of the theory of that disease as almost universally held—that it is the result of a specific virus called *rabies canina*, which, introduced into the human system by the bite of the animal, slowly incubates to its ultimate development. The case reported at the last meeting is to the point. Not the bite of an animal, but a punctured wound of the hand produced by the claw of a bird has developed the so-called hydrophobia in all its terrors. Such a case leads us to reflect—to reconsider our long cherished views on canine madness, and may end in driving "mad-dogs" and "mad-stones"—alike remnants of a past superstition—to that limbo where many of their predecessors may be found to keep them company.

Michigan State Board of Health.

The regular quarterly meeting of this body occurred July 9, 1878, at Lansing, all the members being present, as follows: Dr. R. C. Kedzie (President), Dr. H. O. Hitchcock, Dr. H. F. Lyster, Hon. Leroy Parker, Rev. D. C. Jacokes, and Henry B. Baker, Secretary.

The subject of a **Text-Book on Hygiene** for common schools was discussed. No members of the Board had seen a book suitable for such use, and it was thought very desirable that one be prepared.

Dr. Hitchcock then offered the following resolutions, which were adopted:

Resolved, That this Board respectfully request the Board of Regents of the University of Michigan and the trustees of the Detroit Medical College to establish in their respective institutions, at the earliest practicable moment, full chairs of public hygiene, and fill the same with thoroughly competent professors.

Resolved, That this Board respectfully request the controlling Boards of all the collegiate institutions, as well as the high schools of the State, to see that a course of instruc-

tion in public hygiene be given in each of their several institutions.

Dr. Lyster mentioned that in the interests of the public health he had delivered a course of lectures before the medical class at the University of Michigan during the past six months. He presented a syllabus of each lecture delivered.

Dr. Kedzie presented some results of his investigations on the subject of **Lead Poisoning by Means of Tinned Ware and other Vessels containing Lead.** He said it is well known that there are substances actively poisonous when taken in large doses, that, when taken in small but repeated doses, often produce effects so obscure that they may be mistaken for the symptoms of some chronic disease. Lead, arsenic, antimony and copper are examples. The chronic poisoning which may be caused by minute doses of any of these metals, and the possibility of mistaking such metallic poisoning for some diseases of a different nature, should warn us against their use, or make us careful and guarded while using them. Vessels in daily use for preparation or serving of food are especially liable to affect the physical condition if they contain any material which will insidiously sap the foundations of health and strength.

Culinary vessels, which are durable, cheap and convenient, and without injurious influences on the health, bear an important relation to the comfort and well being of the people. Of all cheap metals for such use, tin fulfills these conditions better than any other. It is comparatively cheap, resists oxidation by exposure to air and water, has a white color, is not readily dissolved, except by strong mineral acids, and the only salt of tin which is actively poisonous is the chloride, which will never be formed in the domestic use of tin vessels. The readiness with which iron surfaces may be coated over with it contributes to its valuable uses.

Unfortunately, while tin is comparatively cheap and safe, lead is cheaper and very dangerous. Yet the two metals readily unite, forming an alloy which may be used in place of tin, but which will generally oxidize and be dissolved by acids more readily than either metals of which it is composed. The danger of poisoning by the use of such vessels is very great. The attention of the State Board of Health has been called to this subject by a letter from Dr. Dorsch, of Monroe, who writes that he has seen cases of *paralysis agitans* which had been taken for chorea, although other symptoms of lead poisoning were present, and investigation showed in all cases that cooking and eating with tin spoons

or in earthen and iron vessels with a coat of lead, were the cause. The same is true with milk vessels. The acid dissolves the lead salts, and children are poisoned, dying by tubercles of the brain, meningitis, fits and paralytic affections.

Grown persons do not escape, although resisting longer. A similar danger arises from tea and coffee pots of earthenware or composition metal, from tin sieves and funnels, and almost all cooking utensils used by the poor. They are about equally as dangerous as the adulteration of food and spices, so common all over the country.

The danger of lead poisoning is a matter of great importance, because so large a proportion of our population employ tinned vessels for culinary and table use. The alloy of tin and lead oxidizes much more readily than pure tin, and the oxide of lead is very soluble in acetic acid or vinegar, or lactic acid, forming sugar of lead. It also forms salts with malic and citric acids, which are contained in apples, cherries, gooseberries, currants, or any acid fruits. When cooked in vessels containing lead, or even placed in them for some time, they are liable to take it up and become very injurious thereby, because all salts of lead are poisonous. In this way a large portion of our daily food may be a vehicle of poison if prepared or contained in vessels containing a sensible amount; and this danger is greater because the compounds of lead are cumulative in their influence. A person may not be poisoned by one or two small doses, but minute doses taken for a long time will break the health and even destroy life.

The doctor said that of a large number of specimens of tin plate, tinned iron, and other culinary articles examined by him, he found in almost every instance an alloy with lead, and it was often present in large quantities. It is an astonishing fact that a large proportion of the tinwares in the market are unfit for use because of the large quantity of lead with which the tin is alloyed.

Test for Lead.—Place a drop of strong nitric acid on the tinned surface and rub it over a space as large as a dime. Warm it very gently till dry, and then drop two drops of a solution of iodide of potassium on this spot. The bright yellow iodide of lead will form on the spot if the tin contains lead. This test can be rapidly applied, and the results are decisive. The doctor was informed that a peculiar kind of tin plate, the tinning composed mostly, if not entirely, of lead, was coming into general use for roofing eave troughs and water pipes. The lead thus exposed would be in conditions favorable for oxidation, and a quantity of oxide and

carbonate of lead would be washed away in the rain water and deposited in the cistern with every storm. Susceptible persons may be poisoned by washing in such lead-charged water, and all persons drinking it even after it has been filtered will be in danger of chronic lead poisoning. Earthen vessels are usually glazed to overcome their porosity. In many cases, this glazing consists of fusible silicates of the alkalies and alkaline earths. These have no injurious influence on the health. Oxide of lead, when added to the alkaline silicates, borates, etc., makes a very fusible and closely adhering glazing; and is sometimes used, but its use is very dangerous, especially if the vessel contains acid substances. The glazing decomposes, and lead salts from which either dissolve or are mechanically suspended in the contents of the jar, and there is great danger of chronic lead poisoning. This danger is unfortunately very common.

Enameled Iron Vessels.—Within a short time an enamel has been successfully applied to vessels made of iron plate, the enamel taking the place of tin coating on tin plate. As these vessels are coming into general use, it is a matter of public interest to know what would be their influence on public health. He said that a culinary vessel to be safe must be impermeable by water and grease. Metals, especially where vessels are made without seams or joints, such as pressed tinware, glass, and many kinds of porcelain, are admirable in this respect. Glazed crockery, after the glazing is fissured, is very poor in this respect. If the new enameled ware shall prove satisfactory, it will be an important acquisition. At the present time, the most hopeful outlook for good, safe and cheap culinary vessels lies in the direction of some fixed unabsorbent enamel for pressed ironware which will maintain an unbroken surface under all conditions of domestic use.

Another indispensable condition for a safe culinary vessel is that it shall not contain any poisonous material by which the food cooked or contained in it shall be injuriously affected.

The specimens of granite ware which he had examined failed to reveal any poisonous or injurious substance. He regarded it as a safe material to use, but feared its power to resist the tendency to crack after it had been frequently heated.

The marbleized ironware presented very different results. The enamel was found to contain a large amount of lead, and even traces of arsenic were obtained from the enamel by the use of Marsh's apparatus. In a quart basin of this mar-

bleized ironware he placed eight ounces of water containing five per cent. of nitric acid, heated it boiling hot, and kept the whole in a warm place twenty-four hours, then evaporated the dilute acid to dryness, dissolved the residue in water, filtered, and from the filtrate precipitated the lead, obtaining in this way what was equivalent to twenty-three grains of lead. In a similar basin of marbleized ironware, eight ounces of vinegar (free from lead) were placed and kept in a warm place twenty-four hours, and then treated in the same manner as the dilute acid. This resulted in obtaining what was equivalent to seven grains of lead. On powdering some of the enamel and heating it with concentrated acids, very distinct traces of arsenic were obtained. This was probably not present by design, but accidentally from being contained in some of the substances used in making the enamel. A culinary vessel which contains so much lead, and in such a state of feeble combination that eight ounces of ordinary cider vinegar can in twenty-four hours dissolve from a quart basin what is equivalent to seven grains of metallic lead, must be a very unsafe vessel for general use.

The subject of Sanitary Conventions was considered, and after some discussion in regard to the kind of subjects to be treated, and their mode of treatment, it was voted to hold such a convention at Coldwater, Mich., during the coming winter, being invited to do so by Dr. J. H. Beech of that city. The Secretary was directed to make the necessary preparations.

Invitations were also received to hold conventions at Pontiac and Detroit, from D. C. Jacokes and Dr. Lyster, who, on behalf of the citizens of their respective cities, promised active efforts for the success of such meetings. One interesting feature of these meetings is expected to be the exhibition of all sorts of sanitary appliances, a kind of sanitary fair where all interested can exhibit or examine articles designed to meet the wants of the people in their efforts for public and private health.

A communication from George Voorhees, M. D., of South Bend, Ind., giving an account of the fatal burning of a young lady in that city by the Rose burning fluid, was read. In that connection, Dr. Kedzie called the attention of the Board to the fact that the Ohio Legislature had followed the example of Michigan, having passed a law for the inspection of illuminating oils, similar to, though not quite as good as, the one in Michigan secured by the efforts of this Board.

Communications were read from the Michigan Inspector

of Illuminating Oils, giving an account of the burning to death of an old lady in Bedford Township, Monroe county, from the breaking of a kerosene lamp, probably filled with Ohio oil below our standard, and also another giving an account of the explosion of a lamp at East Saginaw by the faulty construction of the wick tube.

Analyses, Selections, &c.

Syphilis in the Negro, as Differing from Syphilis in the White Race.—Dr. Wm. Powell, of Grenada, Miss., contributes the following paper to the *Transactions of the Mississippi State Medical Association*, 1878:

In preparing a report on the subject assigned to me at our last annual meeting, "Syphilis in the Negro as differing from Syphilis in the White Race," I have been unable to find anything in reference to it in print, but have been assisted by information kindly furnished by several members of this Association, and will give the result in a condensed form.

The two races, white and black, seem to be equally susceptible to the influence of the syphilitic virus; the primary chancre in its different stages, presenting very much the same appearance. Secondary symptoms are not as frequent in the negro as in the white, occasionally buboes form and in some cases cutaneous eruptions, erythema of the fauces, and mucous tubercles about the privates. Tertiary symptoms, such as so often affect the cutaneous osseous, and nervous system of the white, rarely, if ever, occur in the negro.

Inherited syphilis occurs very frequently in the negro, and is the cause of the greater part of the fatality from this disease. Abortion is often produced, the fœtus becomes affected, dies and is expelled; in other cases, the child is born alive, at full term, with syphilitic eruptions, or they come on in a short time, say within six months; by far the greater number of these cases die; according to my observation, very few reach two years of age.

The disease is far more amenable to treatment in the negro, than in the white, the cases yield readily, and the cures are more permanent and satisfactory.

Dr. B. F. Kittrell, of Black Hawk, has furnished a case of a negro man and his wife, both of whom he treated about ten years ago, for primary syphilis. the cases both yielded very

readily to treatment; the woman miscarried once or twice, afterward gave birth to syphilitic children at full term. The disease yielded readily to treatment in these children. Her last child did not present any evidence of disease, showing the parents had lost all taint.

Dr. R. S. Ringgold, of Grenada, has furnished a case of a negro man, to whom he was called several months since; on examination, he found a true syphilitic chancre on the body of the penis, and a large bubo in each inguinal region, both of which discharged pus freely on being lanced; he prescribed for the case constitutional remedies and local applications; in about four or five weeks, he met his patient on the street, who reported himself well; on inquiry, the Doctor learned the case had recovered under the use of slippery elm poultices to the buboes, and red oak ooze to the chancre; no constitutional remedy had been taken. [This looks like chancroid.—Ed.]

From what I can see and learn, the disease is very much on the increase in the negro population since the day of freedom to the race. This would be readily inferred from the free communication that exists among them, and particularly when we take into consideration the habits of the race, the fact of promiscuous intercourse, want of cleanliness, and of all hygienic regulations.

Comparatively few of the cases are treated by competent physicians; many are treated by quacks of both races, with various nostrums, herbs, roots, etc., and, no doubt, many are not treated at all. We are forced to the conclusion that the system of the African has the power of resisting the influence of the syphilitic virus, of greatly modifying its effects, and of gradually eliminating it from the system; and this probably in proportion to the purity of the African blood—the mulatto suffering more than the negro. But for this provision of nature, the whole negro race would be swept from the face of the earth in a comparatively short time, by this disease alone.

A controversy has been going on for some time, relative to the duality of the syphilitic virus. It has occurred to me that this question is fully solved by the fact that the virus is modified, in passing through the system of the negro. Syphilis imparted from white to white, continues syphilis indefinitely, producing chancre, followed by its train of secondary and tertiary symptoms, imbuing the whole system of the white. Syphilis imparted from the white to the negro, being modified, becomes syphiloid, producing chancroid, rarely followed by secondary and tertiary symptoms, gradually wears out and disappears from the system; and if imparted from the negro

to the white, continues to produce the modified form of disease.

Recovery of a Case of Hydrophobia.—Our readers will find in another column an account by Dr. Nicholls of the recovery from hydrophobia, which lately occurred under his care at Chelmsford. The details which he supplies are of the greatest interest and importance. The bite was received seven weeks before the earliest symptom. A period of three days' restlessness and occasional difficulty in swallowing ended in the sudden onset of a condition of maniacal convulsion, the spasm being most severe and tetaniform in character, and recurring at first almost constantly, except when the patient was under the influence of chloroform, and afterwards in paroxysms for a week or ten days, when they ceased, although slight psychical disturbance continued for a longer time. During the most intense stage of the disease, an attempt to drink always produced spasm, and it was excited also by the sight of any white object. The man had no fever, but retention of urine and most obstinate constipation. The tetanic character of the spasms was remarkable; it was marked in the earliest as well as in the later convulsions, and the opisthotonos was extreme, so that during the paroxysms the man rested on his head and his heels. Trismus was also present, and increased the resemblance to tetanus, and the case was at first regarded as of that nature. The treatment adopted was the inhalation of chloroform, and the hypodermic injection of calabar bean and morphia at first, and afterwards of morphia only, three grains of calabar bean and forty grains of morphia being injected, Dr. Nicholls informs us, in twenty-one or twenty-two injections.

Dr. Nicholls tells the history of the case without note or comment, and in this he is wise, for the simple facts constitute one of the most valuable contributions which the literature of hydrophobia has received. Doubtless the case will be received with hesitation by some, because the patient recovered; by others because the symptoms were not absolutely typical. But as an instance of recovery it does not stand alone, even among well authenticated cases, and the deviation of its symptoms from the most common type is by no means an unusual character in cases of hydrophobia. We pointed out a few weeks ago how frequently mistakes in diagnosis are made, on account of the extreme preponderance of some one of the symptoms, or groups of symptoms, which characterize the disease. In one the symptoms are mainly

psychical, and the case is regarded as one of mania, symptoms of respiratory spasm and of convulsion being subordinate; in another the latter are chiefly marked, and the case is tetanoid in its aspect, as in that on which we then commented, and as in the case which Dr. Nicholls records to-day. The preceding bite from a dog probably rabid, the incubation period, the absence of any mental anxiety, the early pharyngeal symptoms, all point to the case as being one of true hydrophobia so strongly that the intensely tetanoid character of the spasm cannot be held as militating against the conclusion. Regarding the remedies employed, there is little to be said; they were not new, and had been used before in many cases without success, but the recovery of the patient is no doubt to be ascribed largely to the perseverance and energy with which they were employed.—*Lancet—Amer. Med. Bi-Weekly.*

Posture in Treatment of Colic.—D. L. Phares, A. M., M. D., etc., Woodville, Miss., in the *Transactions of the Mississippi State Medical Association*, 1878, says:

It is the design of this brief paper to direct attention specially to the mechanical treatment of colic. This consists in simply supporting the patient in an inverted position—in other words, in standing him on his head. In some instances, cases that have for hours or days, resisted all ordinary treatments, have by this simple means been relieved and permanently cured in from one to five minutes. Cases, attended with most intense pain, vomiting and other phenomena of so-called "bilious colic," have been thus cured. Relief is sometimes obtained by the "knee-breast" position, or by suspending the body by means of the thighs and legs extended across a high bed or table, the arms and hands being free to assist in giving comfort to the head. But complete inversion is the more sure and prompt remedy.

The relief afforded in these, as in the former classes of cases, is the effect of mechanical influences. The majority of cases of colic result from mechanical influences, and it is but reasonable to seek relief in mechanical counter influences. Several very distressing cases are remembered as being instantly cured in the inverted position, solely, as the patient averred, by the escape per anum of a single small bubble of gas, without explosive noise. Other cases of most agonizing character have been instantly and permanently cured by a change of position of gas in the bowel, effected so quietly as barely to be noted by the patient.

Often the pain vanishes the instant the vertical position is

assumed, and does not return so long as this posture is maintained. But relief is not usually permanent unless some movement of gas is felt. Such movement may be perceived by the patient very promptly, or one minute or more may elapse; rarely no movement at all is perceptible, and yet the relief may be complete.

This treatment is not presented as infallible in all cases; from the very nature of the obstructions, it is reasonable to expect some failures.

Microphone in Diagnosis.—Dr. J. W. Holland, Professor of Materia Medica and Medical Chemistry in the University of Louisville, has recently been experimenting with the microphone, and comes to the following conclusions, which are stated in the *Louisville Medical News*, July 20, 1878.

A series of trials made with it at the hospital and upon private patients lead to the following conclusions:

1. That a noisy hospital-ward is a bad site for the test.
2. That success is dependent largely upon the amount of flesh that covers the ribs of the subject. The sound-waves are never transmitted with clearness unless the person is lean.
3. That the modifications produced by disease are not reported with a distinctness surpassing, if equal, to that attained by the unaided ear.
4. That the rhythmic sounds of the heart mask all others produced in the chest, so as to make the instrument of no value in pulmonary diagnosis.
5. That a medley of sounds, like rubbing and thumping, probably due to the movements of the fœtus, utterly annihilate sounds of the fœtal heart, such as are plainly audible to the trained ear unassisted.
6. That the prospect of a successful employment of the microphone in physical diagnosis is, from present appearances, not very encouraging.

The Pith of the Dried Corn-Stalk as a Uterine Tent.—Dr. W. T. Goldsmith, of Atlanta, brings this substance to notice in the *Transactions of the Medical Association of Georgia*, 1878. Take a joint of dried corn-stalk; strip it of its cuticle, and compress the pith, slowly and firmly, between the thumb and index-finger. By continued pressure, it is reduced four or five times less than its original size. It has a dilating power equal to sea-tangle or sponge. The corn-stalk tent is of easy introduction. Its rigidity overcomes any slight resistance. Dr. Goldsmith has used this tent for

the last seven years. He has not had a single accident from its use, although he has introduced the tent many hundreds of times. The advantages of this corn-stalk tent are:

It dilates effectually, but not too rapidly.

It is smooth, soft, and can be removed without force.

It produces no lacerations, abrasions, or irritation of the mucous membrane.

It can be medicated with any substance as easily as the sponge or cloth tent.

It is of vegetable origin, and, hence, does not become putrid and poisonous to the patient.

It may be retained, non-compressed, for days, without injurious results, if no pain occurs.

A number of small tents, filling up the cervical canal, may be used for more rapid expansion.

It can be prepared in a few minutes of any desired curve, size and length.

Any degree of compression may be given it, or it may be used without compression.

It may be perforated, like the sea tangle, and its power of absorption increased, by pucking its surface.

Atropine to Diminish the Pains and Shorten the Duration of the First Stage of Labor.—Dr. Henry L Horton, of New York, states in the *American Journal of Obstetrics*, July, 1878, that atropine injected into the tissues of the cervix uteri will lessen the pain and shorten the duration of the first stage of labor by overcoming the spastic rigidity of that structure. He details several illustrative cases. He uses about one-fortieth or fiftieth part of a grain of atropia sulphate for each injection. He has had manufactured for him a hypodermic syringe, long needle with a fish-hook curve at the end. The following is his manner of using the instrument, etc: "After hooking the anterior lip of the cervix with the index finger of the right hand and drawing it slightly forward, I carried the needle along the palmar surface, keeping the point pressed quite firmly against it, so as to avoid wounding the maternal parts. After carrying its points well within the cervix, I raised it from the finger, and by a slight traction, buried it somewhat deeply into the muscular structure of that portion of the uterus. After discharging its contents, I retained it in that position a few moments, in order that the absorption of the atropine might be certain to take place."

Book Notices, &c.

Atlas of the Diseases of the Skin. By BALMANO SQUIRE, M. B., Surgeon to the British Hospital for Diseases of the Skin. London: J. & A. Churchill, 1878. Part I. 8vo. Pp. 89. Price in London, 10*s.* 6*d.*

This is the first part of a series of publications which will be made at irregular intervals. This Part I treats wholly of two diseases—*nævus vascularis planus* and *psoriasis* (*diffusa*). Two colored plates belong to each of the two diseases—plate IV, however, representing no disease, but presented for the purpose of contrasting the changes caused by psoriasis (diffusa). Besides these, wood cuts are used whenever necessary to explain the text.

Mr. Squire has undertaken a useful work for the profession. The distinction of the author in his specialty, and his still growing eminence, give to these atlases an authoritative position. The design of the author is to give colored plates, drawn from actual observation as far as possible, and to bring them within the compass of an ordinary size book—in this respect differing from other atlases, which are usually put on quarto—if not larger—pages. While we might wish that the artist had done his part a little better in giving truer color to his plates—not giving the healthy skin such dark complexion, etc.—the text makes up for this deficiency. The author's descriptions are plain, easy of comprehension by the *general* practitioner and thorough, being based upon actual observation or the careful study of cases by the most accurate reporters. In his suggestions about treatment, also, he brings it within the range of *general* practitioner's means to treat the diseases.

While we have not space to give a synopsis of the book, we must add that we are glad the author lays so much stress upon the difference between so-called syphilitic psoriasis and psoriasis proper. It is a common mistake which we have time and again seen committed, "to suppose that if an eruption of psoriasis may happen to present as to its reddened skin (underlying the incrustrations) a coppery color, it must be of a syphilitic nature." The author also assumes the most plausible explanation of the results of different plans of treatment in saying that "psoriasis, although in one sense a general disease, is nevertheless a general disease *of the skin alone*"—and hence the "general treatment by the so-called local means is far more efficacious than general treatment by

remedies administered by the mouth;" but the combination of the two methods acts best. Phosphorus internally in one-thirtieth grain doses, three times daily, after meals—increasing this dose gradually according to tolerance of the patient—and chrysophanic acid ointment externally, have brought about the quickest cures. Before applying external treatment, remove the scales or incrustations of psoriasis.

Atlas of Skin Diseases. By LOUIS A. DUHRING, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania; Physician to the Dispensary for Skin Diseases, Philadelphia. Part III. *Eczema* (Squamosum); *Syphiloderma* (Erythematosum); *Purpura* (Simplex); *Syphiloderma* (Papulosum et Pustulosum). Philadelphia: J. B. Lippincott & Co. 1878. Royal quarto. Price, $2.50. (For sale by Messrs. West, Johnston & Co., Richmond.)

This Part III of the *Atlas* contains four nearly life-size, chromo-lithographic, handsomely executed illustrations of the four diseases named in the title—drawn from life. These plates are not excelled by anything of the kind we have ever seen. There is nothing of the daub about them—each line and shade being an accurate transfer to paper of the reality. We had occasion in noticing Parts I and II to recommend this Atlas to every practitioner who is trying to keep himself well informed as to the most frequent skin diseases encountered by American practitioners. As a profession, the majority is grossly ignorant of dermatology, and hence the most ridiculous diagnoses are being constantly made, and cases sent to the specialist that are easily curable at home.

The text is entirely clinical in its character. The ample experience and opportunities of Dr. Duhring enable him to present truly typical cases, and to suggest valuable treatment. But the one defect of this plan as carried out in the text is that, while a line of treatment is suggested, prescriptions made, etc., nothing is usually said as to the results of treatment in the special cases. A foot-note of three or four lines for each case, written just before the work goes to print, giving the results of treatment, would be a practical advantage.

Insanity in Ancient and Modern Life, with Chapters on its Prevention. By DANIEL HACK TUKE, M. D., F. R. C. P., etc. London: Macmillan & Co. 1878. 12mo. pp. 226. Price, $1.75. (For sale by West, Johnston & Co., Richmond.)

It is seldom that we finish reading a book with such reluctance as in this case. Like Oliver Twist, we wanted more. Treating of a subject in which every one feels more or less

interested, it has a special interest to studious minds—especially when reminded of the fact that the author is eminent as an alienist. This is one of the few books which should be carefully studied by the physician, and also made one of a popular series of publications. Its detail in reference to insanity among the ancients, makes it in itself a historical work, and shows an immense amount of research on the part of the author, who everywhere states his authorities.

There is some comfort in the statement made on page 133 that during the past fifteen years the percentage of persons going insane has decreased 31 per cent. But we are not sure that this percentage of decrease holds good for the United States. After the war, until 1870, the percentage was greatly increased; but since 1870, it appears from a casual examination of statistics, that the percentage as regards the total population has decreased. For the six years antedating 1870, there were special causes in this country for insanity that do not exist now. A bitter fratricidal war had caused the loss of hundreds of thousands of those in the dearest relations of life; children were left in orphanage, to grow up without that protection which fathers and brothers give, and hence society became in great part corrupt; as a result of the war, fortunes were made and fortunes were lost. In short, the terrible upheavals of society and fortunes were enough in themselves to account for an increase of insanity in the United States up to 1870.

We regret that we have not the space to give any note made while reading this book. We cordially commend it to the thoughtful perusal of every public-spirited person.

Transactions of the Mississippi State Medical Association, Held at Jackson, April 3, 4, and 5, 1878. Dr. B. F. Kittrell, Black Hawk, President; Dr. Wirt Johnston, Jackson, Miss., Secretary Pamphlet, pp. 167.

A glance at the report of the Proceedings of this eleventh annual session shows that the meeting was a valuable one to the profession of Mississippi. A large number of papers were read, and what is of equal importance, frequent discussions sprung up between members on the papers read.

The address of the retiring President, Dr. B. A. Vaughan, of Columbus, was devoted to collating facts, involving the peoples' health, in which the needs of laws for the preservation of health are patent. This is a most valuable paper, and should be widely distributed among reading doctors and people.

The annual oration by Dr. J. E. Halbert, Leota Landing,

was on Medicine—something of its history, its developments, and its hopeful future. Such addresses serve a useful purpose in instructing the people, and in interesting them in professional matters.

Dr. Wirt Johnston gives a good paper on Salicylic Acid—reviewing its reported uses and adding some experience of his own, especially as an antiseptic. "It is the most certain bactericide." Satisfactory results have followed its use in rheumatism, diphtheria, common inflammatory sore throat, and in one case of intermittent fever.

The Treatment of Diphtheria is the title of a paper by Dr. P. F. Whitehead, of Vicksburg, which excited considerable discussion. When there is fever and an extension of the minute spots, Dr. Whitehead advises minute doses of calomel, with an excess of bicarbonate of soda; iron, quinine, meat juice, milk and alcoholic stimulants—medicines, nourishment and stimulants to be given every two hours by the clock, not hesitating to disturb sleep to do so. "Under this treatment, I have repeatedly seen the pseudo-membrane disappear, and upon the cessation of the mercury and soda, return, and again disappear when the mercury and soda were resumed." Dr. M. S. Craft, of Jackson, corroborated the above fact as having occurred repeatedly in his own practice.

Dr. S. V. D. Hill, of Macon, contributes notes of a Case of Criminal Poisoning with Arsenious Acid. The symptoms were those of gastric irritation, but none of the surroundings led to the suspicion of criminality, which was proved *post mortem*. The case is of medico-legal importance.

Dr. J. R. Barnett, of Vicksburg, reports a case of Suppuration of Antrum Highmorianum, diagnosed by noticing the discharges apparently from the throat.

Dr. Wm. Powell gives a paper on Syphilis in the Negro, which we have published among Selections for this month.

Dr. H. J. Ray, of Grenada, details a case of Hydrophobia.

Dr. D. L. Phares reports favorably on Posture in Treatment of Colic. (See paper under head of Selections in this Number.)

Dr. J. W. Holman, of Winona, devotes the major part of his paper on Croupous Pneumonia to an adverse criticism of parts of Prof. A. L. Loomis' work on Diseases of the Respiratory Organs.

Dr. Thos. Bryan, of Pope, writes on Malaria; What is it? How Produced? And how Prevented? He claims "that malaria is the result of carbonic acid retained, or received in

the system from external causes, etc." This is not a valuable paper.

But we can only enumerate the titles of other papers:

Chronic Catarrh, by Dr. R. G. Wharton, of Port Gibson—a first-rate paper.

Case of Poisoning by Hydrate Chloral and Camphor, by Dr. H. Hanslow, of Hazlehurst.

Report on Chloral Hydrate in Obstetrics, by Dr. J. E. Halbert, of Leota.

Wound of Plantar Arch treated [successfully] by Compression, by Dr. H. Hanslow.

Treatment of Cholera, by Dr. B. F. Kittrell, of Black Hawk, advocating the use of the hypodermic syringe, charged especially with atropia and morphia.

Report on Epidemic Cerebro-Spinal Meningitis, by Dr. E. W. Hughes, of Grenada.

Early Management of the Infant, by Dr. J. T. Parker, of Buena Vista.

A Case of Typhlitis, by Dr. A. H. Cage, of Canton.

The Report on the Surgical History of Mississippi, by Dr. W. W. Hall, of Grenada, is both interesting and instructive.

Editorial.

Quinine to Prevent Surgical Shock.—In a private conversation, a few days ago, with Dr. Hunter McGuire, he stated to the editor that he had seen, some time ago, a case of compound comminuted fracture of the ankle-joint occur in a nervous man, unattended with shock of injury. Amputation of the leg was performed two hours after the injury, and still there was no appreciable shock. Upon inquiry, he found the gentleman had taken that day about 15 grains of quinine. Dr. McGuire thought it probable that the shock was prevented by the cinchonism. Since then he has been making some experiments by giving quinine before performing serious surgical operations, and has been led to think that slight cinchonism prevents shock of injury, or so lessens it as to make it inappreciable. We hope the Doctor will give us the benefit of his investigation when it is completed.

If cinchonism will keep off shock, it is one of the most important facts in surgery.

Mr. Mann S. Valentine, proprietor of Valentine's Meat Juice, has just returned from Europe after a very successful business trip in reference to the Meat Juice.

Advertisement Corrections.—We regret the oversight of having left in the advertisement of *Vitalized Phosphates* by *Mr. F. Crosby*, in our July number, the name of Messrs. Caswell, Hazard & Co. as agents. The agency is entirely out of their hands.

We also regret that in the advertisement of *Glycerite of Animal Hypophosphites* by *Messrs. Richardson & Co.*, in the same number, the printer neglected to leave out the angencies which belong alone to Mr. A. C. Dung, 61 Bowery, New York.

Gone to Europe.—Prof. F. D. Cunningham, M. D., left for Europe July 10th, and expects to be back the first week in October.

Prof. Hunter McGuire, M. D., will leave for Paris the 7th of August, and return the last week in September.

Both of these gentlemen (of this city) need the holiday and relaxation from work, and we wish them both a pleasant visit and a safe return.

The Spermatic Truss, made by the Cooper Truss Company, advertised in the *Monthly*, is a very simple but serviceable apparatus. The penis being secured in an entirely recumbent position, it is impossible for an erection to occur. Such an instrument, of course, will supply a common need to prevent chordee, nocturnal erections, etc. Unlike any of the other instruments we have seen suggested, this one can do no injury under any circumstances.

Dr. S. S. Staufer's Series of Hard Rubber Instruments has just been sent us for examination and notice. The series of uterine instruments are very serviceable and cheap. The six months advertisement from January to June inclusive, only partially describes them, and does not fully represent their uses. His inkstand, too, is a good thing for office use. The *Medical and Surgical Reporter* has time and again called attention to the series. Dr. Staufer's address is 648 N. 9th Street, Philadelphia, Pa.

Lactopeptine is one of the few so-called physiological remedies that has stood the test of long experience. It excels them all in that it contains in one substance all five of the active agents of digestion. The New York Pharmacal Association, 2 and 3 College Place, New York city, have bought

all rights to its manufacture of the former proprietors, Messrs. Reed & Carnrick, under whose hands it had already become well-known and extensively used. There is nothing quackish about it.

Valentine's Meat-Juice.—This preparation, as its name implies, is the juice of meat expressed by a powerful hydraulic press. Unlike simple extracts of meat, it contains a large quantity of albumen in solution along with some hæmoglobin. When heated, or when mixed with hot water, the albumen is precipitated, and the hæmoglobin coagulated, so that the reddish colour of the solution is changed to a light brown, and the liquid becomes turbid. The makers, therefore, recommend that it should be mixed with cold or moderately warm water. We find, however, that when boiled or mixed with hot water, it forms a very palatable beef-tea, and in many cases might be given in this form, although in cases of great exhaustion, where the utmost nutriment is required, the mixture with cold water might be better. The makers also recommend that admixture with acids be avoided; but it has been shown that the imperfect digestion in fevers depends on want of acid in the stomach, and not on want of pepsin. The addition of a little dilute hydrochloric acid to meat-juice and water makes a very pleasant drink, and likely to be grateful to patients. Some of the albumen of the juice may be absorbed from the stomach unchanged, but part will probably be digested, and the acid will hasten this process. Altogether we think that this juice will be of great service to the physician as affording a concentrated and easily assimilated form of nutriment.—*The Practitioner*, June, 1878.

National Quarantine Report —*Office Surgeon General, U. S. M. H. S., Washington, July* 27, 1878. Abstract of sanitary reports received during the past week under the National Quarantine Act.

New Orleans.—About the 12th instant, cases of *yellow fever* began to occur in New Orleans; at first they were at one focus of infection only, but others soon appeared at different points, and up to yesterday evening, 37 cases and 17 deaths had been reported to the State Board of Health. So far the Board have been unable to trace the outbreak to foreign source. Carbolic acid disinfection is being vigorously carried out at all infected points, and the remarkable success which has attended the efforts of the Board in this direction

in the past few years gives hope of preventing the outbreak from assuming epidemic proportions. Three or four persons from New Orleans have died of yellow fever at points above that place on the Mississippi.

Brooklyn.—No new cases at Navy Yard since last Saturday's report.

Key West.—From 10th instant to noon to-day six new cases of *yellow fever* in the harbor and three in the city have occurred.

Havana.—During week ended July 13, there were 97 deaths from *yellow fever* and 22 from *small-pox.*

Matanzas.—Advices to 19th show increased cases, and increased ratio of deaths.

Japan.—Occasional cases of *cholera* during winter and spring to June 19th, 1878, at Yokohama and vicinity, show the poison of the disease has survived the winter. The epidemic of last September, October and November, extended to all parts of the Empire, with a mortality of 7,967 out of a total of 13,710 cases, or 581 deaths to 1,000 cases. No means yet instituted in Japan to prevent importation of the disease from China where it exists, and where the famine furnishes most favorable conditions for its re-appearance in a more malignant form. Dr. D. A. Simmons, Chairman Health Board, Yokohama, etc.

Calcutta.—Twenty-two deaths from *cholera* during week ended May 25.

Bombay.—Twenty-nine deaths from *cholera* during week ended May 28.

Reports received from other places indicate good health.

JNO. M. WOODWORTH,
Surgeon General U. S. Marine Hospital Service.

Lessons in Clinical Gynæcology is a new work by Dr. W. Goodell, announced by the Medical Publication Office (Dr. D. G. Brinton), Philadelphia. The work will consist of selected lectures delivered by this distinguished Professor of Gynæcology in the University of Pennsylvania, and will be amply illustrated. Price not stated in prospectus.

The Lancet and Clinic is a new weekly medical journal of twenty pages, $3.50 a year, formed by the consolidation of the Cincinnati *Lancet and Observer* and the *Clinic.* It will be under the editorial management of Drs. Hyndhain and Stevens. We bespeak for this enterprise a hearty support.

Obituary Record.

Dr. Crawford W. Long, of Athens, Ga., *the Discoverer of Anæsthesia*, is no more. He was born at Danielsville, Ga., November 1st, 1815. He died at his home June 15th, 1878. A biographical sketch written by that big-hearted and world-famed physician, Dr. Marion Sims, accompanied by a steel-plate engraving, was published in our May number, 1877; so that we need not repeat the events of his life, nor the indubitable evidence upon which his claims rest as the discoverer of modern surgical anæsthesia. Using the language of the distinguished clergyman, Rev. Dr. A. A. Lipscomb, of the Methodist Episcopal Church, South, who preached his funeral sermon, "Standing here in the presence of his remains, I am this day but the voice of the Church, of his professional brethren and of this whole community, when I say that in Dr. Long's death, we have lost an excellent man. He assumed nothing, pretended to nothing he was not, was thoroughly truthful in look, tone, manner and action, lived simply, treated every one considerately, and walked humbly before God. Modest even to the verge of timidity when nothing serious was at stake, he was stern and bold and utterly self-forgetting if responsibility had to be met or danger confronted. A large fund of intensity lay hidden in the depths of his quiet nature which answered with instant and eager force if duty summoned him to action. Reticent as to his own merits, reticent, too, of his troubles, lest he should disturb the happiness of others, he had none of that morbidness which retires into its capacious self and inflicts the pain of a chilling reserve on all who have the misfortune to come within its reach. Gentle, forbearing, faithful to every wise instinct, he kept the covenant of a heart's true life till his days were numbered. He had strength of will and much power of endurance. The minor heroisms which make up so large a share of a physician's experience, and of which the world knows so little, wrote many a paragraph in the annals of his life. Emphatically applicable to him were Wordsworth's lines, that,

> "The facts of human existence
> Did take a sober coloring from an eye
> That had kept watch o'er man's mortality;—"

and appropriate to him those other words also, which tell how some enjoy

> "That best portion of a good man's life,
> His little, nameless, unremembered acts of kindness and love."

Over three-score years were mercifully granted to him, and through him to us, to Georgia and the world. Day by day

strengthened his hold on our families and the community. All his recent growth, which was so manifest to the nearer circle of friends, was upward into clearer light and purer air. It was noticeable, that the ideal of that profession, to which God has delegated the most solemn and pathetic trusts of our earthly being, steadily rose before his eye into loftier grandeur. Noticeable, too, was the fact, that his sympathies deepened for the sufferings of womanhood, and that with keener enlistments of studious thought and warm affection, he worked and toiled and sorrowed in the tragic hours of her agony. Nor did those nearest him fail to observe how his old habits of reading the Bible and attending to private devotion waxed stronger and dearer as his professional engagements multiplied."

Dr. E. M. Campbell.—At a called meeting of Abingdon Academy of Medicine, June 13, 1878, Dr. R. J. Preston, first Vice-President, was called to the chair, and Dr. H. M. Grant appointed secretary *pro tem.* Dr. W. F. Barr announced, in appropriate remarks, the death of Dr. Edward M. Campbell, after which, on his motion, the following resolutions were unanimously adopted:

Resolved, That a committee of three be appointed by the President to report suitable preamble and resolutions on the death of Dr. Campbell.

Resolved, That the Fellows of this Academy of Medicine, and all other physicians who may be present, attend as a body the funeral of Dr. Campbell.

Resolved, That a committee be appointed to visit and request the business men of all occupations in this place to suspend business for the purpose of attending the funeral, and giving evidence of their high regard and appreciation of Dr. Campbell, not only as a physician, but as a gentleman and a citizen.

The committee reported the following preamble and resolutions, which were unanimously adopted:

A melancholy duty has been devolved upon your committee—that of noting, in a formal manner, the death of one of our Fellows, Dr. Edward M. Campbell, of Abingdon, Va., who departed this life at the Warm Springs, N. C., on the night of the 11th instant; and, in discharging that duty, we record, with no ordinary pleasure, the estimate we have of Dr. Campbell's exalted worth as a physician, surgeon, gentleman and citizen. His reputation as a physician and surgeon is not confined to the particular locality in which he has so long and so successfully practiced his profession, but extends

throughout a large circle of the medical profession, who learned to regard him as a physician of great intelligence, of profound ability, and a successful practitioner. As a citizen, he stood very high in the estimation of all classes. He was a friend alike of the rich and poor. By all, his loss will be deplored. We submit the following resolutions:

1. *Resolved*, That, in the death of Dr. Edward M. Campbell, this Society has lost one of its brightest active ornaments—a friend and a gentleman, as well as an eminent physician and surgeon.

2. *Resolved*, That we not only deplore the loss this Society has sustained, but, as citizens, we regard the death of Dr. Campbell as a great public loss.

3. *Resolved*, That the sincerest sympathies of the Abingdon Academy of Medicine be tendered the deeply afflicted wife and children and family of Dr. Campbell; and that we do assure them we feel most deeply and profoundly the heavy blow that has fallen upon them.

4. *Resolved*, That the editors of the *Abingdon Virginian*, *The Standard*, the *Virginia Medical Monthly*, and the *Southern Medical Record*, be respectfully requested to publish this paper, and that it be made of record upon the minute book of this Society.

Dr. Edward McDonald Campbell, who departed this life at the Warm Springs, in North Carolina, on June 12th, 1878, was born of distinguished parents, at Hall's Bottom, in Washington, Va., on the 31st of October, 1825. His early education was gotten from the school in the vicinity of his father's farm, and from the Abingdon Male Academy. His medical studies were begun under the much beloved Dr. Daniel Trigg, of Abingdon, who was a kinsman of Dr. Campbell. After the usual course of studies in the University of Pennsylvania, he graduated in 1848. He began his professional career in Lee county, Va., where he practised for several years. In 1852, he returned to Abingdon, to enter into a partnership with Dr. Trigg. A few months afterwards, Dr. Trigg died, leaving Dr. Campbell a large and remunerative practice. In 1857 he married Miss Ellen S. White, of Abingdon, and they had two children. During the war Dr. Campbell served with distinction as a Confederate surgeon. Dr. Campbell was a courteous gentleman, a valuable citizen, and an affectionate husband and father. His loss will long be felt by the community in which he lived, as few men have endeared themselves so effectually in the hearts of the people as he. May he rest in peace! G. B. J.

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Original Communications.

ART. I.—**Remarks Based on a Case of Total Blindness (with Sudden Recovery of Sight) Following Brain Lesion.*** By A. D. ROCKWELL, A. M., M. D., New York, Electro-Therapeutist to the New York State Woman's Hospital, etc.

The infrequency with which we meet serious impairment of the function of the nerves of special sense in cases of hemiplegia following brain lesions, renders the subject, perhaps, of secondary importance; but as every deviation from the common symptoms of any disease materially aids in its comprehension, I propose to glance very briefly at what I consider the more interesting features connected with this topic. What I shall say is suggested by one case only, in which the sight was suddenly lost and as suddenly regained. The fact that complete unilateral paralysis never follows cerebral lesions, has been thought to disprove the suggestion generally accepted, that the will in calling into activity the muscles of the opposite side, acts through the corpus striatum; but the hypothesis of the connection of spinal nuclei by commissural fibres, that has been advanced to harmonize this suggestion, with the fact that bilaterally acting muscles are exempt from paralysis following lesions in and around the corpus striatum, is ingenious and plausible. It is not, perhaps, absolutely conclusive, for it is not certain that the bilateral

*Read before the American Neurological Association, June 15, 1878.

nerve nuclei of the cord are so connected by commissural fibres as to constitute practically a single nucleus.

If, however, it can be presented as an anatomical fact that there is such an arrangement, and that such nucleus receives fibres from each corpus striatum, so that the will may act upon it through either striated body, we have a very satisfactory explanation of the exemption of the more automatic and bilaterally acting muscles in the hemiplegic.

When we come to the consideration of sensory phenomena, equally interesting facts are observed. With but few exceptions, lesions of one hemisphere are not followed by marked impairment of the function of any of the nerves of special sense; and the explanation for this is very much the same as has been offered by Broadbent in the case of motor phenomena—is, perhaps, even more conclusive; for the researches of Lockhart Clarke certainly show that the nuclei of the two optic and two auditory nerves, respectively, are very intimately connected. As a matter of fact, we know that not only do ordinary lesions of one hemisphere fail to impair sight, but that almost complete destruction of one hemisphere may leave these functions intact, through the power of the opposite hemisphere to take cognizance of visual impressions.

In regard to sight, there are some exceptions to this rule of exemption in damage to the hemispheres; but none probably as regards hearing, since the nuclei of the two auditory nerves lie near the junction of the pons with the medulla; and hearing can hardly be impaired without there is either a lesion at this point, an injury near the origin of the nerve-trunk, or an incomplete thrombosis of the basilar artery. Sight, on the other hand, may not only be occasionally affected by damage to one hemisphere, but the extent of the optic tract within the cranium, and its varied blood supply, render it more liable to injury in any form of intra-cranial disease than the sense of hearing. The determining causes of hemiplegia, which, at the same time, may occasion defects or complete loss of sight are—1st. Where the superior peduncles which are closely related to the visual centres, suffer damages either by hæmorrhage or occlusion of vessels. In

such cases we may have total blindness. 2d. When with a thrombosis in the carotid and middle cerebral arteries of one side, the obstruction is prolonged into the ophthalmic artery. In this case, as the vascular supply of the optic nerve and retina is cut off on the same side as the brain lesion, the loss of sight, of course, occurs on the side opposite to that of the paralyzed limb. 3d. When one of the posterior cerebral arteries is obstructed by a thrombosis, the optic nerve, after its decussation, or the corresponding pair of quadrigeminal bodies may be implicated, resulting either in partial or complete loss of sight on the paralyzed side. 4th. The optic tract may be compressed by hæmorrhage into the substance of the crus cerebri or lower part of the sphenoidal lobe, resulting in more or less defect of sight on the side opposite the paralyzed limb.

This enumeration of some of the causes of partial or complete blindness following hæmorrhage or softening, leads me to the consideration of an occasional loss of this function, which is only temporary, and due probably to indirect or reflex effects of injuries to brain substance in close proximity to the corpora quadrigemina. As a parallel to the above, we may have, as a result of an epileptic seizure, temporary paralysis of the limbs. One case of this kind, where the paraplegia was complete and lasting for over twenty-four hours, I have myself seen. In the same way, then, either with or without an epileptic attack, we may have complete loss of sight, although it is said that hemiplegia, when associated with this anomaly of temporary blindness, is apt to be preceded by epileptiform convulsions, and in the illustrative case which I have to relate this was undoubtedly the mode of onset. I would state that this case is not one of recent occurrence, but came under my observation over ten years ago in the practice of a Dr. Miller, now deceased, who, although not a regular physician, had had an immense, and, perhaps, an unparalleled experience in electro-therapeutics.

I have never reported it, from the fact that, at the time, it seemed to me to be entirely exceptional and unexplainable; but in the light of subsequent experience, the result then noted would seem to be not altogether exceptional; nor devoid of the possibility of rational explanation.

Case.—The patient, a man in middle life, was seen in the autumn of 1866. Some years previous, he had suffered from a convulsive seizure, which was, I supposed, epileptic in character, and these at long intervals had been repeated. Two months before he came under my observation, he was prostrated by an epileptiform attack of unusual severity, resulting not only in incomplete paralysis of one side of the body, but a condition also of total blindness. There was in this case a reversal in the order of recovery, for two months after the attack, while the arm had almost wholly regained its normal power, the strength of the leg was still impaired to a considerable degree.

An induction current as powerful as could be well borne was applied simultaneously to both eyes of the patient for about two minutes, resulting in an immediate restoration of sight.

This result, surprising as it seemed at the time, and almost incredible as it may appear to those who have given the subject no thought, or who have never heard of cases analogous, is, in truth, not so astonishing as it would seem, neither indicating any mysterious power or novel therapeutic action of the current. Judging from reports of other cases, and the probability of the purely functional or indirect cause of the blindness, recovery would probably have taken place spontaneously, and was only hastened by the reflex stimulation of the electricity.

The length of time during which sight was lost in this instance would seem to be exceedingly rare, for among a number of cases mentioned by Dr. Bastian,* he refers to one in which the blindness "lasted for an unusual time—as long as six weeks."

The patient, while in apparently perfect health, had several attacks of numbness in the left arm, which finally resulted in almost complete loss of power, and at the same time left him so totally blind that he was unable "even to see daylight." The recovery of sight was rapid and continued permanent.

If we attempt to explain the interesting phenomena of the sudden and total loss of sight, and its sudden recovery, on the theory of indirect or reflex influences, it might be suggested that in the light of a better knowledge of cerebral

*Paralysis from Brain Lesions, p. 116.

physiology and pathology, these views are not received with the same favor as formerly.

It must not be forgotten, however, that morbid anatomy is, as yet, far from being co-extensive with pathology. It is notorious, that the most profound derangements of the functional activity of the nerve-centres may exist, and yet by none of our advanced methods of investigation, has it been possible to discover any appreciable lesion; and until we have more accurate knowledge in this direction, the theory of reflex influences, on which we must fall back for explanation, although beyond the sphere of absolute verification, is, at all events, plausible, and, to a certain extent, rational.

ART. II.—**Gonorrhœal Ophthalmia.** By J. G. BROOKS, M. D., Paducah, Ky. (Read before the Southwestern (Kentucky) Medical Association, May 16th, 1878.)

In nine years practice I have seen but one case of ophthalmia, the cause of which was unquestionably gonorrhœal. I have, however, seen other cases of a suspicious character, two of which I shall report here.

Without stopping to argue in favor of the metastatic origin of this disease, or as to whether it is invariably caused by the poison coming in contact with the conjunctiva, I will, at once, endeavor to describe my typical case and its treatment, together with the course pursued in other cases of doubtful blennorrhægic origin.

CASE I.—A negro man came to me suffering with a violently inflamed eye. On interrogation, I learned that he had long suffered with chronic sore eyes, and being informed by an old woman that urine would cure them, he bathed the eyes with his own urine. The next morning after this act, he was in great agony with a most intensely inflamed eye. Further inquiry revealed the fact that he had a discharge from his penis, which, he assured me, was caused from a strain. Examination, however, proved it to be unmistakably gonorrhœal. With these facts before me, I thought the case a clear one, and instituted treatment for gonorrhœal ophthalmia.

Believing the abortive treatment of this disease to be not

only unsatisfactory, but fraught with actual harm in every case, yet, with the authority I at that time possessed, I did not feel justified in pursuing any other plan than the application of a strong solution of nitrate of silver, grs. xxx, to water f℥j; of this, I made two applications daily, morning and night, but not for a longer period than two days, at which time the eye was entirely destroyed.

On the third day, notwithstanding the proper precautionary measures were carried out to protect the other eye from infection, it became as violently inflamed as its fellow. Concluding that I could not possibly have a worse result than followed the treatment of the eye just destroyed, I resolved to try a milder course this time, and prescribed zinc. sulphate, grs. ij, morph. sulphate, atropia sulphate, $\overline{aa}$ grs. iv, to water f℥j. I ordered some of this mixture to be dropped in the eye frequently during the day, and to syringe under the lids with warm water containing zinc. sulphate, gr. j to the ounce, every few minutes during the day and night. I need hardly say, that with this course, the eye steadily improved, and is to-day a sound organ, and a monument to the memory of mild therapeutic measures in the treatment of active inflammation of the eyes, specific or non-specific.

Case II.—A woman of suspicious character, while suffering with gonorrhœa, gave birth to a stout, healthy child. On the third day after birth, the baby was attacked with a severe blennorrhægic ophthalmia, or at least, I assumed it was, and treated it as such, using mild astringent lotions with the syringe. In this case I ordered a pad of lint, saturated with glycerin and morphine, constantly applied over the closed lids, while not using the syringe. This was done to relieve pain, and to effect local depletion. The improvement was marked from the commencement, and continued until about the tenth day, when the eyes were entirely well.

I have treated several other cases, none of which, however, were free from doubt as to gonorrhœal cause; but all received the mild astringent treatment, and I deem it useless to mention that all recovered with good vision.

Just here, I will say, that I cannot too severely condemn the treatment with strong solutions of silver as prescribed by many authors. I believe a sixty-grain solution frequently applied to a healthy eye would excite a violent inflammation, followed by sloughing, and its ultimate destruction.

There is a practice, generally conceded by the majority of

the medical profession to be correct, viz.: That in active inflammation of any part of the body, soothing and depletory measures are alone applicable. Then, surely an acute gonorrhœal conjunctivitis could hardly be an exception to the rule, simply because of its specific origin.

In urethral blennorrhægia, in its most acute form, we rarely use any local treatment unless it is cold water—the *so-called* abortive treatment being discarded by all who are familiar with the experience and teachings of those who are engaged in the study and practice of venereal disease as a specialty. These gentlemen, or at least, the most of them, condemn this cause as being the most injurious possibly to be pursued.

This being true, why resort to such heroic measures in treating an organ more delicate and complicated in structure, affected with the same specific inflammation? In my opinion, these caustic applications deserve to be censured more in the treatment of ophthalmic than in urethral blennorrhægia.

Dr. M. F. Coomes, of Louisville, Ky., in a most excellent article on "Catarrhal and Purulent Ophthalmia," says he is positive that there is no pathognomonic symptoms of gonorrhœal ophthalmia; and the only assurance that a purulent discharge from the conjunctiva is gonorrhœal, is to know that the gonorrhœal matter was put into the eye. In this opinion, I agree with Dr. Coomes, and claim that the cause should play no important part in the diagnosis of the case, and should certainly not influence us in the application of remedial agents. I think that an inflammation caused by gonorrhœal matter will not run a more rapid course, or prove more destructive, than from any other cause.

Statistics may show a proportionately larger number of eyes destroyed by gonorrhœal ophthalmia than any other form of this disease; yet I think this can be reasonably accounted for. I claim that it is owing, not so much to the destructive character of the poison that excited the inflammation, as to the erroneous application of caustic remedies, which tend only to intensify the inflammatory action and hasten destruction of the organ.

In the article above referred to on ophthalmia, are ample statistics, as shown by reports of the French and British Ar-

my Surgeons, about the years 1800 to 1810, proving the superiority of the mild course of treatment, to that of the heroic use of nitrate of silver. And since Dr. Coomes' concluding remarks are so expressive of my views on this subject, I will quote them in full. These statistics show, first, the great impropriety of using the nitrate of silver; secondly, that mild astringents do all that could be asked in these cases, and are the only safe and reliable remedies; and thirdly, that bad hygienic surrounding, with almost no treatment, is not more injurious than the heroic caustic treatment; and, in fact, could not be worse since caustics is known to destroy the living tissues as certainly as any form of disease, no matter how violent.

Saelberg Wells uses a solution of nitrate of silver, grs. ij to f℥j of water, if he sees the case early in the disease. But if the inflammation has assumed a diphtheritic character, he says the use of astringents, *more especially silver*, must be particularly avoided, and resort to the application of leeches, ice, &c.

Mr. Geo. Lawson, F. R. C. S., London, treats acute conjunctivitis (catarrhal ophthalmia) with alum water (grs. v to f℥j) with good results.

Dr. Pope, of New Orleans, recommends leeches, cold water dressings, &c., in the first stage, and nitrate of silver in second stage. The strength preferred by this gentleman is grs. iv to f℥j.

Dr. Rogers, of Madison, Ind., has treated a number of cases of gonorrhœal ophthalmia, in all of which the most aggravated symptoms were present, with a weak solution of carbolic acid, morphine and atropia; and he has had the satisfaction of curing most all of his cases—the milder forms being cured in about a week or ten days.

I could continue to cite authority corroborative of my opinion on this subject, but I deem it unnecessary. What I wish to impress on the members of this Society is, not to be guided in the treatment of this disease solely by authors, whose textbooks are generally found on the shelves of most country practitioners, to the exclusion of facts gleaned by experience of specialists in this branch of medicine, together with what

I am forced to denominate common-sense principles in practice.

Since writing the above, I have seen reference made to a treatment, advocated by Dr. Luton, of Reims, in ophthalmia of the new-born infants.

He uses tincture iodine, one part to twenty parts of cherry-laurel water, which he says is a colorless mixture, and of incontestable power in purulent ophthalmia of infants. The liquid is to be dropped in the eyes five or six times daily, besides external applications. In efficacy it is declared to be superior to nitrate of silver, while it is painless and perfectly safe.

The discoloration is owing to the production of hydriodic acid and iodide of cyanogen, two colorless bodies in solution.

ART. III.—**Dysmenorrhœa—Its Treatment.** By H. E. WOODBURY, M. D., Washington, D. C.

The practitioner often meets with cases of this disease of a distressing and troublesome type. Numerous remedies and modes of treatment have been proposed, but these often prove inefficient. As this painful and injurious condition may result from different causes, no single plan of treatment will be applicable to every case.

A successful treatment of several obstinate cases, prompts us to give the profession the benefit of our plan, which we hope may be deemed worthy of a trial. Believing that constriction or occlusion of the cervix—the result of sub-acute inflammation or displacement—was frequently the cause of the trouble, we have pursued the following method in all cases in which it was not contra-indicated.

About one week before the time for the menstrual flow to commence, we introduce into the cervix a very small tent made from the bark of the elm (*ulmus Americanus*). We prefer this material because it is safe and cleanly, and never causes inflammation, as the sponge sometimes does. In most of these cases, we have found it very difficult to pass a

small tent, moistened, more than half an inch into the cervix, on a first trial, and those used at first are only about one inch in length. After the tent is introduced, a plug of cotton, to which a cord is attached, is passed through the speculum to keep the tent *in situ*. The plug is saturated with carbolic acid and olive oil or glycerin, parts 1 to 7. By means of the cords attached to the tent and plug, the patient removes them the next morning, and uses an enema of warm water and castile soap. In an obstinate case, we use a tent every day up to the day on which the flow should commence, unless it is established sooner, substituting longer and larger ones as the cervical cavity becomes dilated. So much for the mechanical part of our treatment.

According to the indications of the case, we use one of the following remedies internally:

Concentrated tincture of helonias (false unicorn) Keith & Co's.

Fluid extract of ergot (Squibb's).

Tincture of gelseminum.

Syrup of the iodide of iron.

The patient commences taking one of the above at least three weeks before the regular date of her flow, and continues it until this is fully established. She then suspends it for a week or ten days, after which she resumes it. Sometimes we get better results from using two of the above-named remedies alternately, as the helonias and the iron, or the ergot and the iron. A gentle current of electricity is passed through the uterus once a day for two or three days before the period. The results of this plan of treatment may be stated briefly, as follows:

During the first period after this treatment, the patient suffers less pain, and the flow is somewhat increased in quantity. If it be persevered in, there will be improvement every month, and after three or four months, the cure will most likely be complete.

In all cases of dysmenorrhœa resulting from the causes we have herein set forth, we have found this plan a practical and successful one. The tent used is bland and unirritating, owing to the amount of mucilage it contains, and, by means

of the plug, a gentle pressure is kept up against it. As soon as the tent, on removal, is found to be freely stained with blood, we cease to use it until a week before the next period.

This treatment, it will be perceived, is especially adapted to that class of cases in which some eminent practitioners have recommended and practised incision of the cervix. We vastly prefer the method here described to incision.

ART. IV.—**Hydrorrhœa Gravidarum.** By J. E. GIBBONS, M. D., Baltimore, Md. (Read before the Baltimore Medical Association.)

There are three forms of hydrorrhœa, viz.: Hydrorrhœa catarrhal, hydrorrhœa gravidarum and hydrorrhœa puerperal. I propose to speak of hydrorrhœa gravidarum only. This is a flow of water or serous fluid which occurs during pregnancy, sometimes spoken of as "false waters." Discharges of water from the uterus may occur at any time during pregnancy, but are more frequent during the latter months, and especially during the last month. The frequency of such discharges and the quantity lost each time varies in different cases. Sometimes the liquid comes away in gushes; at other times, drop by drop. Generally the woman enjoys usual health before the discharge comes on, when she unexpectedly finds herself wet, the fluid escaping drop by drop; or else she hears the peculiar sound caused by the sudden irruption of a considerable quantity of the waters. In most cases, she suffers no pain either before or after this discharge; though it sometimes happens that the rapid depletion of the uterus, and the consequent parietal retraction, brings on contractions of the uterus, which cause pain. If attended with much pain, there is great cause to fear abortion. The liquid is usually a little yellowish, very limpid, and at times tinged with blood, leaving stains upon the linen, and having a spermatic odor; but it so much resembles the amniotic fluid, if not really identical, that it is not easily distinguished from it.

Various opinions have been advanced as to the nature and

seat of these "false waters." Some accoucheurs have supposed that they were contained between the chorion and amnion, and that their escape is due to a laceration of the chorion. Ruych and Rœderer thought it came from lymphatic vessels, or from hydatids of the uterus. Böhmer thought it escaped from a second abortive ovum; Delamotte and Cruvihier believed that it came from a cyst near the ovum; Deleurye, Puzos, Naigele and Dubois were of opinion that it came from the inner surface of the uterus, being secreted externally to the ovum. Dubois says it is the result of loosening of the membranes from the uterus, when the vessels pour out serum. Hegar says the source is the uterine glands of the decidua. Barnes believes "there are various sources." In some cases the fluid is liquor amnii. This may come either from rupture of the membranes; from rapid transudation under pressure; from rapid formation and accumulation of the liquor amnii in the amnion; or from the bursting of a cyst formed between the amnion and chorion, or between two layers of the chorion, the proper amniotic sac remaining intact. In the majority of cases, however, the fluid is not amniotic. It is, then, the result of a rapid secretion from the uterine glands or from the cervical cavity. Baudelocque was of opinion that it resulted from the transudation of the liquor amnii through the membranes. Mauriceau, Camper and M. Capuron, have supposed that these waters proceed from the interior of the amnion; for, in certain cases, they say, the membranes may yield at a point quite distant from the neck, and the superabundance of this fluid will then gradually drain away, though still an abortion may not occur. Leishman says the only theory worthy of mention, is that the affection arises from a secretion, which has its source in the inner surface of the uterus, and which in proportion to its quantity, separates the coverings of the ovum from their uterine attachments. A pouch is thus formed between the decidua and the womb, which gradually increases as more fluid becomes effused, until, making its way downwards towards the cervix, it finds a mode of exit. Whatever may be the cause or seat of the discharge, the waters, at term, are said to be not less copious in women who have lost "false waters,"

than in those who have not. It seems to me, however, that this may, in some cases, be the cause of a so-called dry labor.

The treatment consists in enjoining strict rest in the horizontal position, and, if there is any uterine contractions or pain, in giving an opiate in some form.

It strikes me as very remarkable that a condition of such practical importance, upon a correct diagnosis of which depends the very life of the fœtus, should be so seldom mentioned in works upon the diseases of pregnancy. Cazeaux, Barnes, Leishman, Blundell, Hamilton, and Anderson, describe it and speak of it as frequently occurring; while Simpson, Meigs, Churchill, Dewees, Ashwell, Collins, Ramsbotham, Ingleby, Montgomery, Campbell, Tucker, Velpeau, Colombat and Scanzoni do not even mention it. From my own experience, and that of physicians with whom I have talked, I would conclude that it is comparatively rare. I have spoken of it to several physicians, who have enjoyed a considerable practice for some years, who have not met a single case. The fact that it rarely occurs does not argue against the importance of understanding its significance when met.

Happening, as it does, most frequently during the last month of pregnancy, it is taken by the patient and friends as an indication of commencing labor. The Doctor is summoned, and what is he to do? Upon examination by *balottement* he finds the child still floats in the uterus; the os uteri is not open, and there are no active pains. He may take it to be a case of hydrorrhœa, advise perfect quiet, go home and await another summons; for if he mistakes the condition for commencing labor, he may find himself waiting for a week or even several weeks. Indeed, he may, if mistaken in his diagnosis, take measures to encourage labor, believing that to be inevitable, and thus be guilty of abortion. There is no doubt that premature labor has been caused by interference in such cases, which, if left alone, would not have occurred before the ordinary period. In a practice of ten years, I have met but one case, which I will relate:

I was sent for November 28th, 1877, to see a German woman living in East Baltimore. When I arrived, I found an

old midwife in attendance, and learned that the patient was in her seventh month of pregnancy. "The waters had broken" about twenty-four hours previous, and the midwife had done all in her power to bring on labor. She had given warm teas, and had been, and still was, kneading the abdomen vigorously. The patient was suffering very decided pain, and with each pain a considerable quantity of fluid would pass. I made an examination and found the os uteri somewhat dilated and patulous, but the membranes seemed not to have been ruptured, as I could feel the amnion between my finger and the child's head. I advised the old midwife to discontinue her rubbing of the abdomen, and told her we would endeavor to relieve the pain, with the hope that abortion would be prevented. The old midwife contended that this would be impossible, as "the waters had broke," and advised me to get my instruments and take the child away or the woman would die. She said that she had practised 48 years, twenty in the old country, and twenty-eight in this, and ought to know her business. She then gave me an account of the different positions the child had assumed since she took charge of the case. When she first examined she felt the head; after several hours the shoulder presented, and next and last the side presented. She then knew the child could not be born and sent for me. What she wanted a Doctor for was to take the child with instruments (at my examination I had no trouble in deciding that the head presented.) She continued to go to the bedside every few minutes and rub the abdomen, taking no account of my efforts to prevent the abortion, until I positively ordered her not to touch the patient again, after which she became insulted and left the house, telling some one of the family before she left, that the woman would certainly die. I then advised perfect quiet, and ordered 20 drops of tincture opium deodorated, repeated every two hours, or sufficiently often to control pains. Some discharge and pain continued for several days, but grew less day by day. At the end of a week, the woman was up and apparently as well as ever. She went to term and was delivered of a healthy child, which is still living.

In addition to the importance of a correct diagnosis in such cases, this case shows the very great danger women incur by employing the so-called midwives. This case I believe was a case of simple hydrorrhœa. The dilatation of the os and severe pains were the result of the old midwife's treatment;

and had I not arrived at the time I did, she would have succeeded in a very short time in producing what ought to be regarded as a criminal abortion.

ART. V.—**Cases Illustrating the Action of Morphia in Acute Uræmia.** By J. T. BOUTELLE, M. D., Hampton, Va.

The use of opiates in uræmia, once generally condemned by high authorities, has of late years been regarded with increasing favor by many physicians. In an article entitled "Acute Uræmia," which appeared in one of the numbers of the *Medical Record*, of 1873, A. L. Loomis, M. D., discussed this method of treatment, and reported cases, proving the treatment by hypodermic injections of morphia to be correct in theory and beneficial in practice. Since reading that paper, I have had three cases of acute uræmia, in which I gave the remedy a fair trial, and the record of these, though few in number, may prove interesting as an addition to cases already reported by other physicians.

I think the following points worth noticing. The doses were large, considering the age of the patient.

In Case I, a child six years old being comatose, a hypodermic injection of an eighth of a grain of sulphate of morphia relieved the coma, and urine was passed freely after a few hours.

In Case II, the violence and duration of the convulsion, and the large amount of morphia given, seven-eighths of a grain being injected in the course of an hour into a child ten years old, without producing any symptoms of opium poisoning.

Case III was fatal, and would probably have been so under any course of treatment, but I think his chances might have been better if I had administered larger doses at first.

CASE I—*Jan.* 31, 1876.—Girl, æt. 6 years; colored; has lately recovered from scarlatina, and has been apparently well for some time. Within a few days, her face has swelled, and she has had several attacks of vomiting. To-day she

"became speechless," and I was summoned. I found her in a state of coma, with stertorous respiration. She had had a convulsion shortly before my arrival. Her face and extremities were œdematous; she had passed about a gill of urine in the last twenty-four hours. This had a smoky tinge, and on examination I found it loaded with albumen. I immediately gave a hypodermic injection of morphia sulphate, gr. $\frac{1}{8}$, and applied a flaxseed poultice to the loins. After the injection, the respiration soon became more quiet. Ordered, as soon as she could swallow, infusion of digitalis, ʒj every three hours. Four hours later, I found her rather stupid, but easily aroused. She had passed no urine. R. Pulv. jalap, grs. viij; potass. bitart., grs. xv. M. Make a powder, to be given to-night. I left morphia sulphate, gr. $\frac{1}{8}$, to be given by the mouth, if any symptoms of another convulsion appeared.

Feb. 1st.—The morphia was given some time during the night, although she had no convulsion. The cathartic produced four dejections. She has passed a pint of thick urine, and is conscious and answers questions. Infus. digitalis to be continued.

Feb. 4th—10 A. M.—Has been doing well, and been up and walking about; but to-day a severe headache came on, then vomiting, and finally a convulsion. I was sent for, and found her comatose; respiration stertorous. Gave hypodermic injection of morphia sulphate, gr. $\frac{1}{8}$. The effect of the injection was not to deepen the coma, but, on the contrary, the respiration became more tranquil, and the patient appeared to be in a natural sleep.

5 P. M.—Great improvement. Passes water freely; bowels have moved; no vomiting nor headache; is conscious. The urine is clearer than on Feb. 1st.

There were no convulsions. The infusion of digitalis was continued for several days, and the patient went steadily on to recovery.

Case II—*March 4th*, 1876, 4 A. M.—Maria D., æt. 10; colored. I was called to see this patient for the first time this morning, and found her in a violent convulsion, which had already lasted three-quarters of an hour.

She was in the desquamative stage of scarlatina. Her face and lower extremities very œdematous. She was unconscious, with violent muscular twitching, chiefly of right side; right side of face convulsed, and pupils squinting to the right.

4:15 A. M.—Hypodermic injection of morphia sulphate, gr. $\frac{1}{4}$.

4:30 A. M.—No change. Repeated hypodermic injection of morphia, gr. $\frac{1}{4}$. This seemed to produce some diminution of violence at first, but very soon the convulsion again increased in severity.

4:55 A. M.—℞. Morphia sulph., gr. $\frac{1}{4}$, hypodermic injection. After this, the muscular twitching began to cease, and at 5:05 A. M. she was asleep quietly. No stertorous breathing.

10:30 A. M.—No return of convulsive movements. Sleeps all the time, but can be easily aroused. Does not seem to recognize anyone, but started when I opened her eyes, as though she knew me to be a stranger. Pupils normal. Bowels have not acted for a day or two. ℞. Pulv. jalap, gr. viij; potass. bitart., gr. xij. M. Make powder, to be given immediately. Also, ℞. Infus. digitalis, ℥ij every three hours. A flaxseed poultice to be applied to loins.

6 P. M.—Has had no more convulsions, but the eyelids twitch a little now and then. Pulse rapid; respiration jerky. Lies in a stupor, but can be aroused. Has vomited the powder of jalap, &c. Has passed urine once. Ordered enema of soapsuds, one pint.

March 5th.—Great improvement. No convulsions. Recognizes friends. Has eaten some bread and butter, and has drunk some milk. No vomiting. Has passed her urine twice. The enema produced no dejection. Continue infusion of digitalis, ℥ij every three hours. ℞. Pulv. jalap, gr. viij; potass. bitart., gr. xx. M. Make a powder, to be given immediately.

March 7th.—She has been doing well, and taking plenty of nourishment. The powder given on the 5th produced four dejections. Face and limbs still œdematous. This evening complains of intense headache. Has been eating fried ham. ℞. Potass. bromid., gr. xv in water.

March 8th—6:30 A. M. The headache was relieved for a while after the dose of potassium bromide, but it returned, and is now excruciating, causing her to shriek with pain. She seems to be totally blind. I gave morphia sulphate, gr. $\frac{1}{8}$, and directed this to be repeated in half an hour if necessary. The second dose was given at 7 A. M., but produced little relief, and at 8 A. M. she vomited and had a slight convulsion. I was called, and gave morphia sulphate, gr. $\frac{1}{6}$, by hypodermic injection. After this, she lay unconscious, with occasional muscular twitchings until 10:20 A. M., when she had a very severe convulsion. Eyes, mouth and face twitch; arms and limbs jerk violently; respiration very jerky, from the diaphragm taking part in the convul-

sion. Throat filled with glairy mucus; pulse, 150. Hypodermic injection of morphia sulphate, gr. ¼. At 10:30 A. M., no change; paroxysm increasing in intensity, if anything. Hypodermic injection repeated, gr. ¼.

10:50 A. M.—Convulsion moderated slightly, but still continues; eyes wide open, staring; eyeballs twitching. Repeated hypodermic injection, gr. ¼.

11:05 A. M.—Little change, if any. Hypodermic injection, gr. ½.

11:15 A. M.—Convulsion ceased; eyes closed. Respiration still labored and a little jerky. Rattling of mucus in throat. Pulse 140, irregular. Pupils are not contracted, and no poisonous effect from the morphia visible.

12 M.—Sleeping quietly. No stertor. Vision returned. She had no more convulsions, but made steady improvement. The infusion of digitalis was continued for a considerable time, and the bowels were kept open by saline cathartics. A pill of elaterium, gr. $\frac{1}{12}$, was given on *March* 11th, and operated very freely. The œdema gradually disappeared, and she made a good recovery.

Case III—*March* 6th, 1876.—Richard P., æt. 12; colored. Has had scarlatina and is desquamating. Has been doing well and sitting up at times. I think he has had no medical treatment. Three days ago he seemed sick and his face swelled. He vomited yesterday and this morning. Passed his urine last night. Complained of headache during the night. I saw him for the first time this morning. He was lying in a semi-conscious state, face and eyelids excessively swollen; extremities very œdematous. Pulse very rapid; coughs badly; rattling of mucus in trachea: respiration rapid and spasmodic; he appears to be on the verge of a convulsion. R. Morphia sulphate, gr. ⅛, hypodermic injection; also, R. Infusion of digitalis, ℥ij, every two hours.

6 P. M.—He was quiet for a while after the injection of morphia. He has passed about two ounces of urine, and has been sweating profusely. Bowels moved yesterday. He is now delirious, tossing and rolling about, calling for help. Respiration rapid and jerky. He coughs and raises bloody sputa. Skin very hot. He cannot localize any pain, but is in great distress. I gave a hypodermic injection of morphia, gr. ¼, and directed a powder containing morphia sulphate, gr. ¼, to be given during the night if necessary. This produced only temporary relief, and he died before morning.

ART. VI.—**Organic Phosphates.** By C. G. POLK, M. D., Philadelphia, Pa.

Wheat has long since been determined to be the most nutritious of any one article of food; in fact, it is the only one, it is said, that is capable of sustaining anthropological life for a long period. Chemical analysis of this aliment, however, shows that it is not very rich in nitrogeneous constituents—being surpassed, in this respect, by lentils, beans and peas. Baron Liebig attributes this apparent anomaly to the presence of a large amount of phosphates. Liebreich, whose name is inseparably connected with the introduction of chloral hydrate into medical practice, and who, in 1865, isolated a compound from brain to which he gave the name of protagon, has given the chemistry of wheat especial attention. He says that the crystalized fatty body, obtained by treating the inner shell of wheat by alcohol, is a grand phosphate, in which there is present, beside phosphoric acid, cerebrin—a peculiar fatty body, containing nitrogen—olein margarin, stearin, glycerin, and a curious ammonia. A moiety of the same compound is present in the egg, blood corpuscle, and is an important constituent of the brain. The writer has found, by treating the inner cuticle of wheat, first with carbon bi-sulphide, then with alcohol at the temperature of 100° F., and finally with warm water, that all the soluble phosphorous elements can be isolated. Dr. S. R. Percy recommends gasoline as the extractor of the wheat phosphates, but I have never used it, being perfectly satisfied with the results obtained by my process.

Testing the product obtained by my process; it is found that the portion soluble in the carbon bi-sulphide very quickly decomposes a cold solution of potassium permanganate, thus proving beyond doubt the presence of phosphorus, in the formula of a hypophosphite; and these hypophosphites have largely for their base, calcium and magnesium—salts especially needed in the development of bone and teeth. It is a curious and interesting fact, illustrating the wisdom and purpose of the Great Design, that during pregnancy and lactation, these hypophosphites are abundant in the blood of

women. As these hypophosphites are demanded, more than any others, in infantile life, so wheat phosphates, more than any other preparation of phosphorus, are suited to supply the pregnant and nursing women with phosphates, when the demands of maternity exceed the supply elaborated from the food. This conclusion, reached by scientific deduction, is also confirmed by clinical results. One of the most common expressions of phosphatic deficiency during maternity is trifacial neuralgia. Every physician of large experience has encountered these cases—a torturing face-ache defies arsenic, morphia, quinia, atropia and the usual anti-neuralgic agents; tooth after tooth is sacrificed, and yet no relief, until at last the physician looks deeper into the cause, and adopts a more rational treatment. The wheat phosphates are then freely given, and agony is exchanged for comfort. They more speedily supply the want than do either isolated brain compounds, or the laboratory-made hypophosphite of calcium. As their relative value in such cases is in the order here given, so the choice of them should be so made. When not expedient to give the wheat phosphates, I add the syrup of the hypophosphite of calcium to the protagon. While the result is not so speedy, it is, in the end, equally satisfactory. During the past month, the writer has encountered three cases of trifacial neuralgia, which defied the usual remedies, but yielded to wheat phosphates and a nutritious diet.

It is not, however, to be inferred, that all cases of neuralgia depend upon this single cause, or require but a single remedy; such a narrow view will only lead to frequent disappointment. Cause and consequence are linked together very closely in the pathological chain, and he who disregards them will surely err. Malaria, indigestion, hepatic derangement, or even a remote local irritation may cause neuralgia, and each case has its specific treatment. The physician who would expect wheat phosphates to cure a neuralgia depend ing on uterine displacement or irritation, would be unwise. Nevertheless, neuralgia is, in a large measure, as Romberg has said, the cry of the hungry nerve for blood, or that pabulum in the blood essential to its functional and structural integrity. It is largely a disease of debility, and very often

associated with imperfect digestion or assimilation. Tonics, especially those containing iron, are indicated, and nothing else will fill the indication in so large a number of cases. Each hundred parts properly isolated should contain nearly three per cent. of the protoxide of the phosphate of iron. As the dose is about sixty grains, it will contain over one and one-half grains of the iron salt. Wheat phosphates, in no case, can be injurious, and are so advantageous in many that it would be a good plan to give them in all cases of neuralgia in children, and pregnant or nursing women.

The writer again refers the reader to an editorial note in the *Virginia Medical Monthly*, February, 1878, page 789, and also to Dr. Wellford's paper in the same journal (page 884, March number), read before the Richmond Academy of Medicine. During the discussion which this paper called forth, Dr. L. S. Joynes suggested that it would be better to give phosphates at once in cases of phosphatic deficiency. In 1870, the writer isolated by water, ether and alcohol all the phosphates from the food of dogs and supplied their places with laboratory-made phosphates; but the dogs emaciated about as rapidly with this phosphate of lime as without it; he then isolated the phosphates from wheat and gave it in the place of the phosphates normal to the food. The wheat phosphates seemed to restore entirely its nutrient properties. From the experiment, it would seem that ordinary phosphates are not assimilated, and consequently do not do any good, while organic phosphates are alone nutritious.

But this view of the writer is also sustained by high authority. Dr. Tilbury Fox, world-wide known as an author of Skin Diseases, says: "There is something essentially special in the organized phosphates that have been formed by passing through a living organism, as compared with those artificially prepared. It is not the amount, but the kind which produces the good results." Andre Sanson says that "the phosphates that are manufactured in the *laboratory* are not such as should be used, because their form does not allow of their digestion and assimilation." In addition to the above, fully five hundred declarations of the superiority of

isolated over ordinary phosphorous compounds are upon the file of the writer.

The accumulated evidence is so great, that to the writer's mind there seems no possibility of error. Were the evidence limited to the writer, it might be argued that as the writer introduced isolated animal hypophosphites into medical practice, pride and ambition, if not interest, might bias his views in favor of the organismal kind. But Tilbury Fox, it may likewise be stated, introduced wheat phosphates into medical practice. As his reputation is so high, and his character so unblemished, no one can question his sincerity or integrity.

The writer strongly objects to the choice of Professor J. S. Wellford—monobasic phosphoric acid. He objects to phosphoric acid of the ordinary kind, because it is not organismal, and although he has used it extensively, he has not witnessed the advantages he anticipated. But monobasic phosphoric acid, he believes, has no place in the animal organism, unless a trace with potassium in the muscles, which is even questionable. It is unstable, and does not form permanent compounds in the laboratory. Still Dr. Wellford is a very intelligent and conscientious physician, and his statements cannot be lightly disregarded. His researches into the organismal relations of phosphorous elements have been extensive. His views are broad and accurate, and further contributions from him on this subject will be hailed with pleasure.

If the greater assimilability and nutritive properties of the organic phosphates be admitted, the natural inquiry is, Why not administer the phosphates in our food? To this we reply, that against uncooked food there is no objection. Raw eggs and oysters are excellent sources of phosphorous elements, and should always be eaten when the system needs phosphates; but cooked food contains phosphates which are as innutritious as those manufactured in the laboratory.

As stated in the writer's paper on "Infantile Innutrition," in the May number, 1878, of this journal, the writer has high confidence in wheat phosphates in cachectic conditions of children. He believes that a very large per cent. of infantile mortality can be everted by the timely use of wheat

phosphates; that convulsions, ileo-colitis and cholera infantum often originate in the irritation induced in the susceptible organism of the child, by the supply of phosphates for teeth, and bone being inadequate for the demand. This conclusion is not reached by scientific or theoretical deductions, but by careful observations extending through a period of twenty years. Whenever he finds that the child teeths hard, he at once puts it on phosphates, if it be weaned, and if it nurses, he directs the organic phosphates with a diet, rich in phosphorous compounds, to be given to the mother. The result has usually been satisfactory; children who have been suffering from pain, are fretful and irritable, become quiet, amiable and sleep well.

By the gasoline process, any druggist can prepare the vitalized phosphates. All the apparatus needed is a tin percolater. The bran can be packed in this, the gasoline poured on, and it should be allowed to stand forty-eight hours, and then to escape drop by drop. The gasoline evaporates, and the residue is said to be an oleo-hypophosphite. The "organic phosphates" made by my formula is a much more troublesome preparation, and, as already stated, the process of manufacture is more complicated and expensive, but no preparation of wheat phosphates can excel it in therapeutical value. I have used it quite extensively during the past nine years, and deem it of inestimable value in infantile therapeutics. The adult dose is from thirty grains to one drachm. It is not copy-righted, is the property of the profession, and not of Mr. Horace E. Ashmead (at present the only manufacturer), whom I instructed carefully how to prepare it.

The following is an approximate formula:

Salts of calcium in the form of phosphate phosphite and hypophosphite, 8 parts.

Magnesium in the form of phosphate and phosphite, 2 parts.

Ammonium in the form of a phosphite and hypophosphite, 3 parts.

Potassium in the form of a hypophosphite and phosphate, 3 parts.

Sodium as a pyrophosphate and hypophosphite, 4 parts.

Iron as a protophosphate, 3 parts. Oleo hypophosphite, 5 parts.

Gluten, 40 parts.

Starch, 16 parts.

Sugar of milk, 16 parts.

This forms a permanent and pleasant preparation, which, if tested, will find favor with the profession.

2349 *Catharine street, Philadelphia.*

Correspondence.

Apothecaries' Complaints—Prescription Writing.

Mr. Editor,—I wish to call the attention of physicians to the great injustice that is often done apothecaries by their placing all responsibilities of errors in prescription upon other shoulders than their own. I mean by this to say that doctors frequently write one thing when they really mean another, as, for instance, powders for pills; *tea*spoon for *table*spoon, etc. When the patient asks the practitioner how the error occurred, he tells the patient that it was the dispenser's fault—not his own.

While we acknowledge, as apothecaries, our fallibility, and know that we are liable, as others are, to make mistakes, we also contend that the practitioner ought to remember that he, too, may make an error. Before placing the responsibility of error upon the apothecary, he should at least first consult the prescription file of the druggist to see that he wrote for what was wanted. The hot haste of some doctors to lay blame where it should not be placed steals away the confidence of our patrons that has been won by hard labor, study and care. I suppose there is not in this community a druggist who has not had frequently to call the Doctor's attention to errors of prescription writing that would even have been fatal had not the druggist discovered the error—the patient, however, never knowing anything of the mistake. The druggist, on receiving such prescriptions, always tells the messenger

that it will take a *long time* to prepare the medicine. He says this to shield the doctor—in order that he may find the doctor and have the error corrected, etc. To show that I am not overstating the case, I will give you *verbatim* a recipe in my possession.

"℞. Morph. muriat.,.....ʒij.
Ammon. muriat.,.....grs. ss.
Spts. nit. dulc.,.....ʒj.
Aq. destillat.,.....ʒiij.
M. Sig. Take one tablespoonful in six hours."

The above prescription is from one of our most prominent and competent practitioners; and to this day, he, as well as the patient, is entirely ignorant of the error. In this instance, the mistake of the proportions of morphia and muriate of ammonia was so apparent, that I took the liberty of changing the proportions prescribed—not, however, until after I had failed to find the doctor. What would have been the result if the medicine had been taken as prescribed needs no educated doctor or pharmacist to decide.

The physician says a knowledge of such errors should be secret between himself and the druggist. We, as druggists, are willing for this to be so, if there is any reciprocity of courtesy in the event of our making detectable errors. We should be protected by the doctor as we protect his reputation. The practices of medicine and of pharmacy are mutually dependent. Where such reciprocity is wanting, it is, as a rule, more in the power of the druggist to injure the doctor than the reverse. But there is no threat in this suggestion. It is made simply to remind some loquacious doctors that they are under obligations for not exposing them, even though they do sometimes injure druggists.

Yours truly,

A Sufferer.

[The suggestions in the above letter demand the attention of some physicians who are in the habit of insinuating to the friends of the patient, in case of his failure to restore health, that probably the medicine was not what it should be. Such doctors should make their first complaints, face to face, to the druggist, and not in a back-biting manner intimate that the fault rests with apothecaries. We have once or twice in our

life heard of a doctor who was in the habit of sneeringly say, *tut-tut-tut* to patients about the apothecaries that he would not have dared to say in the presence of the compounder. Such remarks, unless the doctor is prepared to prove them, are beneath the dignity of educated gentlemen. EDITOR.]

Sulpho-Carbolate of Sodium Suggested for the Treatment of Yellow Fever.

Mr. Editor,—I have this day written to Dr. Chopin, President of the Board of Health in New Orleans, requesting him to give the sulpho-carbolate of sodium a trial in the treatment of yellow fever, now an epidemic in that city. You will recollect that I published in the number for August, 1876, of your excellent journal, my experience with it in certain diseases, characterized by the presence of a specific poison in the blood—a condition that unquestionably obtains in yellow fever.

Dr. Watson informs us that "the stomach is the organ most generally and seriously implicated in yellow fever; in it indications of disease are most frequently discovered after death." He then goes on to state these indications. A careful consideration of these has led me to the conclusion that sulpho-carbolate of sodium would prove just the remedy required, if commenced early and given in full doses—say 40 to 60 grains in cinnamon water every 3 hours.

My theory is as follows: I know that this remedy is an anti-zymotic; that in rubeola, variola and scarlatina it exerts a marked effect in modifying and eliminating the poison, thus averting it, so to speak, from the vital organs. Is not this just what we wish to do in cases of yellow fever? If we can bring our remedies to bear upon the poison, before the second stage (black vomit) sets in, may we not succeed in warding this stage off altogether? At least, it seems to me that this remedy is well worth a fair trial in this serious epidemic.

As your journal has a large circulation in the South, where the fever now prevails, I trust you will publish this in your earliest issue, and that those who see fit to act upon the sug-

gestions presented will give us the results of their labors and experience.

Let me add, in conclusion, that I should not use the sulpho-carbolate expecting it to prove a specific, but simply for its anti-zymotic properties, and in connection with such other remedies as the nature of each case may seem to require.

Very truly yours,

H. E. Woodbury, M. D.

Washington, D. C., August 17, 1878.

P. S.—I should have strong faith in the sulpho-carbolate as a *prophylactic*, taken in small doses once or twice a day during the prevalence of an epidemic.

The Metric System.

Mr. Editor,—The following is a compendium of the report of a committee of the Massachusetts Medical Society, consisting of Drs. S. W. Abbott, Thomas Dwight and Edward S. Wood, on the metric system. It was accepted and endorsed by the Society, which also voted to memorialize Congress for the establishment of the metric system in law. The committee presents briefly the advantages of this over the varieties of other systems now in use and strong arguments for its universal adoption.

First. Its simplicity and the essentially inherent *uniformity* between its various measurements and their denominations. The multiple of every denomination is always *ten*, and not a variable number as in the measures in common use. Only one set each of measures of weight, length and capacity is required.

Second. Its *international uniformity.* Formerly every country had its own standards. Thus, in long measure, the *palmo* of Portugal was equal to seventy-two hundredths of an English foot, the Austrian *fuss* equalled one and thirty-seven thonsandths of a foot—hardly any two countries having the same standard. The metric system is used at present by a majority of the nations of the civilized world. As a nation we are in a minority, which is yearly decreasing as other nations are rapidly adopting the system. In the year 1860,

the exports and imports of the United States amounted to $762,000,000, of which $700,000,000 was with nations which had authorized or taken steps to authorize the metric system, and moreover was before the adoption of the system by Germany. Unless we adopt this international decimal system it will soon be forced upon us, and not merely by the demands of commerce, but also by our contact with other nations, by travel on our part, and by immigration hither on theirs.

In French and German medical literature, from which we derive so much that is new and valuable, the metric system is used; and how much more intelligible and valuable would these works be to the profession if this uniform and nearly universal standard was in general use in our own country?

Third. It is an *indestructible system*, since its standards of measurement being in the possession of twenty-seven different countries, including our own, any great calamity which would destroy all these must be more universal than any that has yet befallen the human race.

Fourth. It is a *convenient system.* Its operations are conducted simply by the shifting of a point to the right or left, and its convenience and simplicity may be illustrated by comparing any simple operation in duodecimals with one in decimals, or a computation in English currency with one in that of the United States. It is not to be urged solely as a matter of *vital* interest to the medical profession, but chiefly as one of *convenience* and a step in advance which will enable us to lighten our professional labors, and bring us into more intimate relation in thought, word and deed with our brethren of nearly every enlightened nation of the earth.

Fifth. Safety. Uniformity and simplicity alone, other things being equal, tend to insure safety, just as irregularity and complexity are in themselves a source of danger. A single instance may be cited in illustration: The similarity of the signs for drachm and ounce may and has proved fatal to human life, as by a simple error in writing by the physician or of interpretation by the druggist, a patient may get an ounce of some powerful drug in place of a drachm, the possibility of which error would be avoided if the quantities were expressed in simple numbers. Here the metric system *does* become a matter of *vital* importance.

Sixth. The facility of its application to every species and denomination of measurement, and also to every instrument used for such measurement. These different species are weights, lines, surfaces, solidities or volumes, angles, time, values and intensities or forces.

All, with the exception of time, may be reduced to a decimal system. The standards of time, the day and the year, are natural divisions, fixed and unalterable, determined by the revolutions of the earth. Of the other species of measurement there are three which chiefly concern us as physicians, viz.: those of weight, solidity or volume, and of intensity or force. The remaining four are not of sufficient importance to us professionally to demand special notice here. The first two named, viz., weight and volume or capacity, are mainly of interest to us in our relations with the apothecary, and already some of the colleges of pharmacy are anticipating us by teaching their students the metric system, and in our cities and large towns druggists have signified their readiness to adopt it. To the various kinds of measures used to determine weight and capacity, we need not add instruments for the determination of specific gravity, such as hygrometers, urinometers, etc., since they have, for a long time, been arranged on a decimal scale. The measurement of *intensity* or *force* is especially important to our profession, and for this purpose there are a great variety of instruments familiar to us, such as the thermometer, galvonometer, sphygmograph, dynamometer and the spirometer—this last being chiefly a measure of capacity. All these may be readily reduced to a decimal or metric standard.

Of these instruments one deserves especial notice—the clinical thermometer which has grown rapidly in favor during the past few years, and proved an indispensable addition to those instruments now used in diagnosis of disease. The Fahrenheit thermometer, now in use for a century and a half, is based upon a purely accidental standard of measurement—one which is irregular, inconvenient and without scarcely any plea for its continuance, except that of established usage. It should, therefore, be discarded and the Centigrade thermometer, now recognized in the majority of scientific treatises, should take its place. This instrument is simply an outgrowth of the metric system, and its advantages are obvious. On its scale the freezing and boiling point of water (a fluid so universally used as a standard of comparison, and so indispensable in every department of science) are placed at 0 and 100. Its degrees are larger than those of the Fahrenheit scale, but are readily subdivided into fractional parts.

If the question is asked, why we, as a society, should take an active interest in this movement, we reply that a change which shall exert an influence on every department of business, every profession and occupation, which shall extend it-

self into every institution of learning, from the university down to the primary school, and also into every household and workshop in the land, must begin with the educated classes who can comprehend its value and importance. Hence the initiative has been taken by scientific bodies in various parts of the Union.

The metric system is more familiar to scientific men in the United States than is commonly believed. Its use has already been legalized in Congress, and it is generally known and employed by chemists, merchants having dealings with foreign markets, and also by several associations of civil engineers and architects. It is exclusively used by that most important branch of our public service, the United States Coast Survey. [Now also by the United States Marine Hospital Service.—Rep.]

The proposal to adopt it in our own country is not new. Presidents Jefferson, Madison and John Quincy Adams earnestly advocated it—the latter characterizing it in his day as "the greatest invention of human ingenuity since that of printing." In the words of the lamented Charles Sumner, "the rising generation will embrace it and ever afterward number it among the choicest possessions of an advanced civilization." As a nation, we have employed the decimal system of money, which has stood the test of nearly a century, and bids fair to become universally adopted.

Let us, as a society, make known our interest in those improvements which pertain to our national welfare and which facilitate our intercourse with the enlightened nations of the world.

Edward Wigglesworth, A. M., M. D.

Boston, Mass.

Clinical Reports.

A Traumatic Stricture, and Operation by External Perineal Urethrotomy, without a Conductor. (Service of Prof. L. McLane Tiffany, M. D.) Reported by E. A. CHANCELLOR, M. D., Assistant Resident Physician Baltimore Infirmary.

Hodman Whittie, a youth of nineteen years, tinner by trade, muscular and of a medium frame, temperate habits, and of a vigorous constitution; was admitted to the hospital on April 18th, 1878, suffering with incomplete retention of urine with dribbling from overflow.

The history of the patient begins with a fall received on the 11th of December, 1875, while walking over joist that were laid for flooring in a public building. He was on the third floor about to ascend to the roof when his hold gave way, falling through the joist on the third floor down eighteen feet to the second floor, a single joist or beam catching the inner side of his right thigh and the perineum. Assistance was soon at hand, and the patient was taken to a room close by. He soon recovered, and walked to his shop, one mile and a half, which he reached at 5 P. M. Here he remained until 11 P. M.; he then took a street-car, and got off a square from home. On reaching home, he suddenly became very weak; undressed and went to bed; blood was found on the penis and scrotum, shirt and drawers; the thigh and the perineum were black from ecchymosis, and he now experienced considerable pain. An attempt was made to pass urine, but he could not accomplish the act. After straining for three-quarters of an hour, a few drops only of urine escaped mixed with blood.

A physician was called in, and the patient put in a hot hip bath; the urine passed in a small stream, which act was accompanied with great pain. A liniment of whiskey and laudanum was directed to be applied to the perineum morning and night. Stimulants were also directed three times a day with the muriate tincture of iron.

At the end of three weeks, the patient was up and walking about; a week later, he returned to the duties of his trade, but could not work constantly on account of the *dribbling* of the urine, which continued up to the middle of June, 1877. Occasionally the urine would pass in a small stream for four or five days, and then continue dribbling for several months. He suffered continually from incontinence of urine, which kept his clothes always moist. During the summer months, he would frequently leave the roof to go down and change the wet cloths, which were very offensive and troublesome. Such was the state of the case from June, 1877, to April 18th, 1878; the dribbling and incontinence of urine continued during the interval without interruption.

On this day, the patient entered the hospital with a distended bladder, having passed only a few drops of urine within twelve hours. The smallest size catheter, No. $\frac{1}{2}$ (American scale), was introduced without effect; then bulbous and filiform bougies were tried for one hour without success. A hip-bath was directed, which enabled the patient to pass about three ounces of urine with some relief; a sec-

ond bath was taken soon afterwards without micturition; the rectum was evacuated by an enema and afterwards stuffed with cracked ice, which permitted the patient to pass several ounces of urine. Later in the evening, a second application of ice was made without success. The patient did not complain of any pain from over-distention, nor did he suffer any pain from palpitation except just over the symphisis pubis. At 8 P. M., Prof. Tiffany made a second examination with the instruments, but could not permeate the stricture; directions were given to the Assistant Resident Physician to use the aspirator (suprapolic) when necessary. At 12 o'clock, the bladder was emptied of sixty-two ounces of urine, which greatly relieved the patient.

April 19th.—Appetite good; bowels free; no fever, and in good spirits; complained of thirst, which was satisfied during the night by *several* draughts of water. At 12 o'clock, the Professor again examined patient for nearly two hours, without permeating the stricture. At 3 o'clock in the evening, the bladder was aspirated, and forty-nine ounces of urine were withdrawn.

April 20th.—Again aspirated at 1 o'clock A. M.; patient doing well; voracious appetite. At 4 P. M., evacuated the bladder of sixty-four ounces. Bougies were tried without effect.

April 21st.—Condition of patient same as on previous day. Aspirated twice. Later in the evening, Dr. Tiffany used whalebone, bulbous and filiform bougies, and directed a hip-bath; bowels kept free by enemata.

April 22d.—Instrument again tried without effect; aspirated twice; doing well.

April 23d.—Used the aspirator at 1 o'clock A. M.; twenty-eight ounces of urine were drawn off, leaving several ounces with a certain amount to accumulate before the operation at 10 A. M. The urethra was filled with worm oil, and instruments were used for one hour, yet the stricture remained impermeable. The patient was etherized with difficulty, placed in the lithotomy position, and the operation performed after the "Boutonnière" method, or the "operation from the front." The operation was performed in the usual time allotted to a tedious and difficult operation. The meatus, which admitted no larger instrument than No. 12, was freely incised with Civiale's "bistouri caché," and a number 18 conical steel sound was passed through the urethra into the bladder, and immediately withdrawn. The patient was put to bed, and a dressing of carbolized oil and oakum was di-

rected for the wound, which dressing was secured by a T bandage. Sulphate of cinchonidia in five-grain doses three times a day, was prescribed, together with tonics and nutritious diet. No catheter was retained. The patient was given a drink of whiskey and water, and rested quietly until supper, when he had a good appetite and ate heartily. A hipnotic was prescribed at bedtime; urine was passed voluntarily through the wound after the operation, but none through the urethra. The bowels were open; no chill or urethral fever; improving rapidly, with no untoward symptoms.

April 25th.—Enjoying excellent general health; urine passed through the wound, and occasionally a few drops through the urethra; rests well at night.

April 26th.—The third day after operation, no bad symptoms; the wound is looking remarkably healthy, and already partial union by adhesion has taken place. Urine passed through the wound and urethra. A number 12 conical steel sound was introduced through to the bladder, followed soon afterwards by numbers 16 and 18; the latter was passed with difficulty and great pain to the patient.

Without giving a daily record of the case, it may be sufficient to state that everything progressed most satisfactorily, and the patient was up and walking about on the ninth day; the sounds (numbers 16 and 18) were used every second day.

May 15th.—Patient doing well, with no unfavorable symptoms; appetite fair; bowels regular; water passed in a bold stream through natural passage, with occasionally a few drops through a small aperture in the perineum, which has not as yet healed. Numbers 16 and 18 conical steel sounds used every fourth day.

May 21st.—Patient passing urine only through natural passage; wound entirely healed, and the patient able to return home, with directions to have the sounds used every fourth day.

Cauterization of the Neck of the Womb to Relieve Vomiting of Pregnancy. By J. A. GOGGANS, M. D., Bulger's Mills, Ala.

I noticed in the *Virginia Medical Monthly* an article written by Dr. M. O. Jones, of Chicago, on the "Treatment of Vomiting in Pregnancy;" also, the case appended to the same article by Dr. J. Marion Sims. Their recommendation of caustic applications to the cervix uteri for this some-

times most distressing symptom, brings to my mind three cases I have successfully treated by that means.

Case I.—Mrs. O., a medium sized, well-built woman of thirty years, has been pregnant one time before the present pregnancy. Vomiting commenced about two weeks after conception, but was not very distressing; and ceased during the third month, and she was delivered of a healthy child at term. After the birth of this child, she suffered from chronic cervical endometritis complicated with malarial poisoning. Under treatment, however, she improved, and again became pregnant. Vomiting commenced about three weeks after conception. Her life seemed to be threatened from the constant nausea and vomiting, and exhaustion from starvation. The usual remedies were tried, still the symptoms continued the same. Finally, I resolved to try local treatment. I made a saturated solution of nitrate of silver and applied it at once to the cervix uteri. The effect was almost a perfect success. The patient's health was never better than during the remaining month of gestation, save an occasional attack of morning sickness, and this was so slight as to give but little disturbance.

Case II.—Mrs. A. I was called to this lady to treat nausea and vomiting caused by her seventh pregnancy. She had suffered considerably from nausea and vomiting during the first months of each of her preceding pregnancies. But as this pregnancy advanced toward the third month, nausea and vomiting became distressing and emaciation extreme. Bismuth, oxalate of cerium and ingluvin were all tried; still the symptoms gradually became more aggravated, and abortion seemed to be threatened. I made the lady and her family acquainted with the mode of treatment as recommended by Dr. Jones, and proposed it as a last resort. They at once accepted, and I made a saturated solution of nitrate of silver and applied it well to the cervix uteri. The night following the first application, she slept comparatively well, and in the morning called for her breakfast. The improvement continued for a week, but she was not entirely relieved. I then made another application of iodized phenol and glycerin, equal parts of each, and left a pledget of cotton, which had been dipped in carbolized glycerin, to remain against the cervix, to be removed in twelve hours. From that time the nausea has not returned.

Case III.—Mrs. P., a medium sized young woman, a subject of chronic malarial poisoning, has now been pregnant six months. Nausea and vomiting in this case was not so

distressing, but I had an opportunity of trying milder applications with a view of improving her condition. Consequently, I tried the pledgets of cotton saturated with carbolized glycerin, as in Case II. Three applications of this remedy relieved her entirely. Her general health is better than it ever was.

Original Translations.

Translations from the French and German. By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

The Geographical Distribution of Pulmonary Phthisis.—M. Lancereaux presented a paper on this subject to the Académie de Médicine on the 25th of June last (*Le Progrès Médicale*, June 29th). His investigations seem to show that phthisis exists in all countries and among all people, but it is much more common under some circumstances than under others. While it is relatively rare in the polar regions, the disease is most frequently encountered in temperate climates, and especially in the great industrial centres, where a number of men are closely crowded together. It is quite frequent in the tropical regions, where it almost always runs an acute course. These general investigations, however, did not give a very accurate insight into the etiology of the disease, and M. Lancereaux determined to push his analysis further, and to examine into the principal elements of climate, namely—heat, moisture, harshness, altitude, &c.; and also into the manners and customs of the different people where the disease prevails, their mode of life, habits, muscular activity, &c. He was lead to the following conclusions:

Cold has no influence in the production of tuberculosis. The inhabitants of elevated regions, like those living in polar regions, are but little liable to the affection, while those living at a lower level, where it is hot and damp, frequently suffer from the disease. Insufficient air or the impurity of that respired; a diet which is not suitable and nutritious; alcoholic excesses and want of exercise constitute the most favorable conditions possible for the development of the affection. *Race* has no appreciable influence on the development of this disease, but people living a savage life are ignorant of this scourge which sweeps away so many of their more cultured brethren. The general conclusion to which M. Lancereaux is led, is that tuberculosis is essentially a disease

of civilized life, and to civilized people appertains the duty of using means to prevent it. For this purpose, the construction of houses and the width of the streets should be such as to insure, under all circumstances, an abundance of fresh air.

Treatment of Croup by Injections of Perchloride of Iron into the Trachea with a Hypodermic Syringe (*La Tribune Médicale*, July 7th, 1878.) In the spring of 1877, Dr. Palvadeau was called to see a child, four or five years old, who was suffering acutely from dyspnœa and had quite a high fever. The little patient frequently put his hand to his throat as if to remove some obstacle which was choking him. On examination of the back of the throat, no false membrane was to be seen on the tonsils or pharynx; his cough was dry and ringing. Auscultation showed only a slight diminution of the respiratory murmur. In view of these symptoms and signs, the case was diagnosed as one of true croup. Dr. P. determined to pursue a mode of treatment which had suggested itself to his mind sometime previously.

Simple "angina of the throat," and croup, are affections which differ only in the seat of the morbid manifestations, the diphtheritic membrane being formed in the two cases at different places.

In simple angina of the throat the remedy which Dr. P. states has given him the best results, and which has been found most satisfactory by many other physicians, is perchloride of iron in solution, which should be applied locally or used after the method of Aubrun—fifteen or twenty drops being placed in a glass of water, and a tablespoonful of this being taken every ten minutes, and held in the mouth a little while. Being struck with the success of this mode of treatment in simple angina, Dr. Palvadeau sought for some means by which the same remedy could be utilized in croup. In this disease the diphtheritic membranes are situated in the trachea and larynx and cover the epiglottis; hence it is almost impossible to apply the medicine by the mouth so as to bring it in contact with the diseased surface. It was determined to use the hypodermic syringe.

A mixture was made of equal parts of solution of perchloride of iron and water, and this mixture was drawn into the syringe. The child was then held quite still upon its back, and the needle of the syringe was forced into the trachea below the thyroid cartilage to the depth of about a centimetre and a half. About five or six drops of the iron solution were then injected in such a way as to come directly in contact with the diseased surface.

In the evening the patient was seen again. Some membranous shreds had already been detached. The same operation was repeated. The next day the child had expectorated a number of pieces of false membrane. The respiration was very much easier, and an emetic was given to cause the expulsion of other pieces of membrane. The child recovered rapidly.

Dr. P. states, in answer to any objection which might be urged, that the operation is certainly much less hazardous than tracheotomy. He urges that the operation be performed early, and says that if he does not succeed, tracheotomy can then be resorted to. This is the only case which Dr. Palvadeau has treated himself, but he reports another in which the same treatment was pursued by Dr. Régi, of Toulouse. The result in this case was equally successful, three injections being made, and on two of the occasions fifteen drops were injected each time.

Chronic Hydrarthrosis on Both Sides, of Intermittent Character.—A case of this kind, of unusual interest, was reported by M. Panas to the Société de Chirurgie on the 27th of March last, and has given rise to some interesting discussions at subsequent meetings. (*Le Progrès Médical*, March 20th, April 7th, and July 6th.)

M. Panas' patient was a young woman twenty-two years of age, who had no trace of scrofula or of syphilis. She was confined first at the age of eighteen, and fifteen days after her accouchement, she was taken suddenly with a painless swelling in the two knees. The hydrarthrosis lasted four days and disappeared as suddenly as it had come; but just fifteen days after its disappearance, at the same hour of the day it re-appeared again, lasting four days.

This regular periodical return and disappearance continued for four years, up to the time when the woman became pregnant for the second time. During all the time of her pregnancy, there was no return of the swelling of the joints, but a few days after a miscarriage (which she had) it again made its appearance, and again returned periodically. The swelling lasted eight days, however, instead of four, as formerly.

The only thing apparent, on a close inspection of the joints, was an effusion into the synovial sacks. Blisters, complete rest of the joint, quinine and mercurial functions produced no change. The affection was painless, and the patient would have walked about if she had been allowed.

M. Le Dentre stated that he had seen a very similar case many years before when an interné of the St. Louis Hospital.

The patient, in this case, was a young man twenty-three years of age. The swelling in this case also lasted four days and returned every ten days. Voillemier applied the actual cautery over the knees in this case, and when the young man left the hospital he seemed to have been cured.

M. Verneuil had seen two cases; one in a woman at the Lariboisiere Hospital, and the other a young man in private practice. The latter was cured for six years by quinine, but the affection subsequently returned. The ultimate result of the case was not known.

At a subsequent meeting of the Société, on April 3d, M. Panas stated that he had found recorded in a thesis by Rejoux, published in 1877, four cases, one of which was the case which had recently been under his care. In two of the four cases, the puerperal condition seemed to have been influential in the production of the affection. In every case the patients presented some evidence of rheumatism.

At the meeting of June 19th, M. Panas stated that during the last few weeks his patient had been taking twelve drops of Fowler's solution of arsenic per day, and since leaving the hospital, she has had no return of the attacks. He had found several other similar cases reported by German and English writers. One of the former, Dr. Hueter, had treated a case of intermittent hydrarthrosis with success by injecting a solution of carbolic acid into the joint with a Pravaz syringe.

[It will be remembered that Hueter, of Griefswald, is one of the originators of the peculiar view of inflammation which attributes all inflammations and fevers to the presence of little living animalculæ in the blood. Hence his reason, doubtless, for injecting carbolic acid.—W. C. D.]

The Treatment of Pleurisy.—(*Allg. Wien. Med. Zeitung*, June 25th, 1878. This paper was originally published in *Le Sperimentale.*) P. Burresi states that for the last four years, thoracentesis has been performed as early as possible for both serous and purulent exudations into the pleural sack. When the exudation is serous, he waits till the pain and fever have subsided. If these show a disposition to continue, and the exudation increases, he advises leeching, cupping and frictions of the side. If no fever is present in the beginning, he operates as soon as the fluid rises half way up the chest. If the exudation is purulent, he considers the puncture especially necessary on account of the danger of pyæmia, caseous degeneration of the exudation, &c. The advantage of performing the operation early, when the exudation is serous, is, that the disease is shortened and the pressure is removed

from the lungs, so that they can again perform their natural functions.

Immediately after every puncture, he makes his patients breathe compressed air, till it is evident that the permeability of the lungs is completely restored. This also promotes the discharge of the pleuritic exudation. In cases which have pursued a chronic course, Burresi makes the puncture with Dieulafoy's aspirator, and injects regularly, with the view of increasing the adhesive inflammation, cold water or a solution of carbolic acid, or of tincture of iodine, or even of nitrate of silver.

The Treatment of Whooping Cough by Petroleum.—Hildebrandt recommends, in the *Deutsche Med. Wochenschrift* (No. 2, 1878), as a disinfecting treatment in whooping cough, the use of petroleum. He advises that it be placed either in an open vessel in the window, or that a cloth impregnated with petroleum be placed near the head of the patient's bed, so that he can constantly inhale the fumes of the medicine.

[A somewhat similar treatment has been proposed heretofore, and was reported in the *Virginia Medical Monthly* some months ago under the head of "Translations."—W. C. D.]

Analyses, Selections, &c.

The Application of Pressure in Diseases of the Uterus.—V. H. Taliaferro, M. D., Professor of Obstetrics and Diseases of Women and Children in the Atlanta Medical College, contributes to the *Transactions of the Medical Association of Georgia*, 1878, a paper that seems to possess so much of practical value, that we re-publish it without abridgement—notwithstanding its great length.

Congestion and disordered local nutrition are ruling factors in a large class of pathological conditions of the uterus, comprising some of the most intractable of the non-malignant type. Uterine hyperplasia and hypertrophy are not infrequent results of malnutrition and chronic hyperæmia, and may justly be termed the approbria of gynæcology.

The purport of this paper is to show that *pressure*, as a therapeutic agent, can be made practicable and efficient in these disorders, and that it is no less a remedy of wonderful power in the hands of the gynæcologist than the surgeon.

My attention was first called to the action of general pressure upon the diseased uterus in a patient, with hypertrophic

elongation of the cervix, whom I had under preparatory treatment for amputation of the supra-vaginal portion. The elongation was supra-vaginal and complicated with complete cystocele and vaginal eversion. The highly engorged and elongated neck, together with the vagina and bladder protruding from the vulva and hanging between the thighs, presented a tumor of considerable size. The inability of the patient to empty the bladder, together with partial strangulation of the cervix by the vaginal orifice, occasioned great inconvenience and suffering. It was for the relief of a most violent attack of this kind, that I was first called to see her. She had despaired of permanent cure, and only hoped for temporary relief. The protruded parts were restored to the pelvic cavity by careful pressure with the hand, after first emptying the bladder, and placing the patient in the knee-chest position. A pledget of cotton, saturated with glycerin, was placed in the vault of the restored vagina against the cervix, for the purpose of keeping the parts within the pelvis and for the detergent action of the glycerin upon the congested blood vessels. She felt greatly relieved and was left with instructions to keep the recumbent posture until I saw her again for renewal of the dressing. Upon my next visit, two days subsequently, I found my patient up and at her household work, the parts having expelled the dressing and rolled out again between the thighs in their old position. These dressings were repeated a number of times with imperfect and unsatisfactory results, so far as retention of the mass in the pelvis was concerned, but with great relief of the congestion and tenderness. In order to get rid of the trouble of these repeated dressings, I endeavored to keep the parts restored by means of pessaries, preparatory for operation at my clinic before the medical class. Quite a variety of pessaries were used, and quite sufficient to satisfy me of the utter futility of further effort in this direction. Determined, if possible, not to be thwarted in my efforts to keep the protruded parts within the pelvis, and thereby to give the woman the utmost possible comfort while at her daily duties, she was placed upon her knees and chest and the parts carried within the pelvis to their utmost elevation. Now, with a Sims' speculum retracting the perineum, and with the enormous vagina distended to its utmost capacity, the entire vaginal canal from its vault to the floor of the pelvis was completely and compactly tamponed with cotton; the first pledgets containing glycerin, both for its detergent powers by osmosis, and for its powerfully disinfectant virtues. I was not pre-

pared to say how my patient would bear this new condition of things, for her pelvis seemed to be literally filled with cotton. Her vagina was enormously large, and was capable of great distention and elongation, the uterus was free from adhesions, and with the entire pelvic-roof was capable of considerable elevation, and so long as the tampon remained, this position of the organs was secure.

When the patient returned to me in three days, as directed, for renewal of the dressing, it was found to be perfectly in place, clean and free from odor. She expressed herself in the most enthusiastic terms as to her improved condition; whereas, before, she dragged along with painful difficulty in walking, she could now move with rapidity, ease and comfort, and had been doing satisfactory work as cook and house servant.

In removing the tampon (which was done in the knee-chest position), I observed that the cotton pledgets had packed quite hard, from pressure and the wetting incident to the free osmosis, and it occurred to me to substitute sheep's wool for the cotton, which I did in the subsequent tamponing.

Sheep's wool possesses elasticity and resiliency, which it retains under pressure and moisture, and hence is especially adapted to our purpose as a tampon.

My patient was improving rapidly in general health, while her comfort and freedom of locomotion were entirely restored. The tampons were, therefore, continued, not with the least idea of any curative results, but simply with the view of making her comfortable and improving the general health, preparatory to amputation of the cervix. After a number of tampons, the uterine cavity was greatly reduced in depth, and my astonishment was beyond measure, when, after fourteen days of tamponing, I found, by careful measurement with the probe, that the uterus had lost three inches in its depth. in the beginning of her treatment, the cavity measured *six inches* in depth, from the end of the cervix to the fundus. It now, by careful measurement, gave *three inches.* This unlooked for and remarkable result could only be explained by the withdrawal of the dragging weight of the pendant vagina upon the cervix, and the *direct pressure* of the tampon. The chief agent in this rapid tissue metamorphosis, was undoubtedly *the pressure* upon the soft and spongy uterine texture.

Amputation is now the only recognized method of radical cure in hypertrophic and hyperplastic elongations of the cer-

vix of the uterus, and hence, no other remedy was thought of in this case; but when the time for operation, as given out to the medical class, arrived, the material was unexpectedly gone. This unlooked for result suggested to my mind the application of pressure in all the pathological stages of the organ, from the simplest congestion, to its greatest degree of hypertrophic or hyperplastic growth.

To permanently secure the results obtained, it was necessary to reduce the size of the enormous, lax vagina. This was done before the medical class in the winter of 1876, by Schrœder's method, described in his diseases of women, in Ziemssen's Cyclopædia, and which he had performed but once at the time of publication. My own operation, so far as I know, is the second one upon record, and was published in the reports of the Atlanta Academy of Medicine, in April, 1877. From the high estimate I placed upon the operation, I have taken the liberty of copying Schrœder's illustration, which gives at once a fair idea of its peculiar features. By reference to the first operation performed by Dr. Sims, as detailed in his Uterine Surgery, it will be seen that Schrœder's method does not differ from Dr. Sims', except in the manner of introducing the stitches, and is, therefore, a *modification* of the procedure of Sims. The modification is, however, a valuable one, and will, doubtless, popularize the original method of Sims, as it meets fully the objectionable features for which its author abandoned it.

While fully awakened by the case which has been detailed, to the value of *direct pressure* in hypertrophic and hyperplastic growths of the cervix, the wide range of its utility did not impress me until the following case was submitted to its test:

Case II.—Mrs. S——, from a distance; thirty-eight years of age; married eighteen years; no children; one miscarriage at three or four months, soon after marriage. Her bad health dates from the miscarriage. For the past few years she had grown gradually worse, until I saw her the 15th day of October, 1877. I found her in bed, greatly enfeebled, pale, emaciated, and vomiting or retching almost incessantly. The history was that she had for several years been under treatment for disease of the uterus, and for disease of the stomach, with a gradual downward tendency in health. Some five or six months previously, she had taken permanently to her bed, to which she had since been closely confined. So extreme, was her prostration, that she could scarcely speak above a whisper. For several weeks past she had been under able

physicians of this city, who, I have no doubt, had subjected her to skillful treatment without relief. She had great loathing for food, and took little in the way of nourishment. I found her taking morphine and whiskey freely, and getting partial and temporary respite from her distressing nausea and vomiting only when well under their influence. Her physicians had suspected, from the persistent and aggravated gastric disturbance, serious organic disease of the stomach. The history of her family antecedents revealed hereditary tuberculosis, and she herself had been the subject of two slight hæmorrhages from the lungs. She had not menstruated for the past six or eight months. Altogether, the prognosis seemed most unfavorable.

A thorough physical examination revealed a condition of the uterine organs which I thought explained the history of the case from the beginning, as well as her present distressing, and indeed alarming constitutional condition. The uterus was found acutely retroflexed, adherent, greatly congested, and exquisitely sensitive. The periuterine structures were tender and inelastic. Here was a local state of things, quite sufficient certainly to account for the distressing symptoms. Distant pathological sympathies had so nearly masked the real seat of trouble, and had so well mimicked organic disease, that an error in diagnosis could hardly be reprehensible. The blood taint is an unfortunate complication here, and it is impossible to say now how much it may be in fact a pathological factor.

It was determined to stop as rapidly as could be safely borne, the opiates and stimulants, and, if possible, to introduce a larger amount of nutrition in the patient's blood. It was, at the same time, determined to carefully test the efficacy of *pressure by the tampon* upon the congested and tender uterine organs. In view of the existing blood taint, this must be graduated with great care and delicacy, lest we kindle up an active pelvic inflammation.

The patient being placed in the left lateral position of Sims, a small tampon of cotton, saturated with glycerin, was placed in the vaginal roof through Sims' speculum. She was put upon Valentine's meat juice and wine of pepsin, with instructions to diminish one-half the morphine and whiskey. The following morning I was encouraged to find my patient feeling better, having vomited but little and slept better than for weeks. The whiskey and morphine had been decreased as directed, and the nourishment had been taken regularly. The uterine dressing was removed and

another applied of larger size. *From this time there was no vomiting.*

The following morning wool was substituted for the cotton, and the tampon increased in size by one or two small pledgets, and so on every morning until the vagina was filled perfectly and compactly to the pelvic floor.

The patient rapidly gained in strength and flesh, and in less than two weeks had left off entirely the opium and stimulants, except the wine of pepsin taken with the beef. The tampon remained, at first, one day; subsequently two, and finally three days. So soon as the strength permitted, she was placed by her nurse in the *knee-chest* position, as the preferable one for the application of the tampon.

After some three weeks of treatment thus kept up, and the general and local conditions greatly improved, I ventured upon the careful introduction of the probe. As the instrument entered the cavity, just within the internal os, and turning backward in the direction of the retroflexed body, the patient cried out with pain. She was greatly overcome by the shock, and the whole muscular system, seemingly, thrown into a tremor. Feeling apprehensive, lest I had ventured too far, the tampon was re-applied, the first pledgets, as usual, containing glycerin. Directing my patient to send for me should the pain continue, I left her, fully expecting to be re-called; but, not hearing from her, I did not return, until the regular interval of three days, when I found her doing well, her eyes and voice greeting me with a bright and cheerful welcome. The probe was again introduced, and subsequently at every dressing, with progressively decreasing pain, until it no longer gave the least unpleasant sensation.

The position of the uterus, now some five weeks under pressure by the tampon, was greatly improved, and the adhesions, so far as could be ascertained, giving way. The capacity of the vagina had considerably increased, so that a much larger quantity of wool was necessary for the packings, which were now made quite firm. She was able to walk about the room unassisted, and sat up a large part of every day. The tampon and probe were continued about two weeks longer, when the adhesions, congestion and tenderness were thought to be sufficiently destroyed to attempt complete and permanent reduction of the organ. This was done by placing the patient on her back and introducing a hard rubber stem, with small vaginal bulb, when the body of the uterus was, easily and without pain, lifted up to its normal po-

sition, by carrying the bulb of the stem, with two fingers placed against it, back upon the posterior wall of the vagina toward the hollow of the sacrum. This method of replacing the retroflexed uterus belongs to Schrœder, but the principle is found in *Sims' repositor*. I like it, for this purpose, better than the repositor, because of its greater simplicity and easier manipulation.

The uterus, with the stem, was now secured, by Albert Smith's pessary (modification of Hodge). These gave her no discomfort, immediately—nor did they subsequently. After some two weeks, the stem was removed, the vaginal pessary remaining, with the uterus perfectly secured in position. The patient was now taught to remove and introduce the pessary herself. She was able to go visiting, walking several blocks, and, in a week or ten days, was sent to Southwestern Georgia to her husband, and to a climate more congenial to her delicate lungs. She has continued to improve in strength, and now walks as far as three or four miles at one time, without discomfort.

My first visit to this patient was October 15th, and last visit December 20th, following, being just a little more than two months under treatment. [I neglected to mention, at the proper place, that this patient had menstruated without the least pain and discomfort once while under my immediate care. I saw her recently, while on a visit to this city, in May, 1878. She tells me that she has menstruated regularly, and without pain. The menstruation had previously (dating from her miscarriage) been excessively painful.]

Case III.—Mrs. S., of this city; age, twenty-four; married two years; pregnant four months after marriage, and miscarriage at six and a half months of pregnancy. Her bad health and confinement to bed dates from this miscarriage; has not been out of bed for more than a year, and, the greater part of this time, unable to sit up. The prominent constitutional symptoms are, great debility and nervousness, emaciation, nausea, anorexia, and sleeplessness. The prominent pelvic symptoms are, painful bearing down in the pelvis, attended with a constant and distressing burning sensation. There is no history of hereditary blood taints, and, altogether, a good record as to physical stamina. Physical exploration revealed a marked retroflexion and highly sensitive uterus, with endometritis and granular erosion of the os. The organ was movable, but not altogether free from adhesions. She had been treated with caustics, tents, vaginal douches, and a variety of pessaries. The able and skillful gentleman who

had her last in charge, and who has had a large gynæcological experience, I am sure submitted her to appropriate and skillful management, both topical and mechanical. Encouraged by results in preceding cases, which had so far exceeded my expectations, I determined to use *pressure* in this.

My first visit to this patient was November 7th, 1877. As she was nearing her menstruation, nothing was done except the daily application of the cotton pledget, with glycerin, for several successive days, after which, her period coming on, I did not see her again until November 25th, some four or five days after the menstrual cessation, when the first tampon was applied. The vaginal canal was small, the mucous membrane red and irritable, and the posterior vaginal wall shortened, and without its usual deep cul-de-sac at its cervical junction. Only a partial tampon was, therefore, applied at first—the vault of the vagina being well packed, and about one-half of the canal filled with the view of gradually inuring the vaginal walls to the pressure and the presence of a foreign substance, and, at the same time, to make more capacious, by gradual distention, this part of the vagina.

The tampon was removed every two days at first, and subsequently every three days. Its application was kept up continuously, being left off only for menstruation (and once to test the tolerance of the organs to the intra-uterine stem and vaginal pessary), until February 10th, when the tenderness and congestion having disappeared, the posterior vaginal wall and cul-de-sac restored to normal dimensions and the general health so far improved that she was out of bed the greater part of the day, and walking about her room. It was now determined to leave off the tampons and resort to permanent replacement by pessaries. A flat zinc and copper stem, two inches in length, was introduced, and the uterus replaced by Schrœder's method, and the whole secured in position by Albert Smith's pessary. These were worn without discomfort, and with progressively increased improvement for two weeks, when the stem was removed and the vaginal instrument left in place. The patient, in the meantime, has been improving in general health, the pelvic, nervous and sympathic troubles having disappeared with the exception of still a slight indigestion. She is up all the day, walks where she wishes, and rides out to Ponce de Leon Springs, three miles from the city. [She is now, June 17th, 1878, visiting friends in a distant part of the State, and as a matter of security, still wears an Albert Smith pessary, which she has been taught to remove at night and apply in the morning.]

Case IV.—Mrs. F., thirty years of age; married; three children; youngest six years of age. Bad health dates from the last labor. There has been no miscarriage. No history of hereditary taint traceable. Has been alternately in and out of bed for six years, with gradual but perceptible decline in general health, and for the past two months closely confined to bed. The prominent constitutional symptoms have been nausea and vomiting, painful oppression in the chest, great nervousness, with occasional paroxysms of what she terms "spells." She is emaciated, weak and despondent. There is no appetite, and she invariably spits up her food after each meal, with occasional vomiting in the intervals. The bowels are constipated. She sleeps badly. Menstruation recurs every three weeks, lasting four days, with aggravation of the symptoms. There is a dragging heaviness in the pelvis, and a constant painful pressure in the right iliac region extending to the hip. This, with the oppression in the chest, occasions more distress and anxiety than all the other troubles.

This woman had been under the management of an able and skillful gentleman for the past three years, with alternate periods of improvement and relapses, and the alternate periods of hope and despair so usual to such cases. Physical exploration revealed marked anteflexion, congestion and enlargement of the uterus. The cervix was very large and hard, and the walls of the canal so firmly approximated by the hypertrophied tissues as to make it difficult to introduce a small probe. The os was abraded and granular, and its broad slit firmly compressed. The physical condition of the uterus, together with the general history, leaves but little doubt of the existence of subinvolution as the basis of the now complicated pathological condition of the organ. To the subinvolution has been superadded displacement, congestion, and the areola hyperplasia of Thomas, endometritis and granular erosion of the os—quite a complication truly, and yet such as will be recognized by the gynæcologist as of frequent occurrence, and the most intractable, certainly of the non-malignant diseases of the uterus. This is the chronic parenchymatous metritis of the old, and still of most of the modern writers. It is the chronic infarctus of Kiwisch—the diffuse proliferation of connective tissue of Klob, and the areola hyperplasia of Thomas. It is the opprobrium of gynæcology, and encountered always with grave apprehensions as to cure. This is the disease of our patient, broken down in health, bed-ridden and emaciated.

This patient came under my professional care January 20th, 1878, when the first tampon was applied. From this time the nausea and vomiting, and the painful pressure in the pelvis disappeared, with very partial returns of the pelvic symptoms at the menstrual periods, but no return at any time of the vomiting. The tampons have been continued (being renewed every three days) up to the present time, April 17th, 1878, except during menstruation.

It will be remembered that this patient menstruated every three weeks profusely. The first *period* after the commencement of treatment she went to the full time of twenty-eight days. The second menstruation went two or three days over time, and the third period ten days over time. The menstruation has been attended with much less discomfort, and the quantity, according to the patient's account, quite normal. She has gradually and perceptibly gained in strength and flesh. She sits up most of the day, and walks about the house and yard. The uterus originally measured three and one-sixth inches in depth of cavity. It now measures a little under two and one-half inches in depth. The displacement has been sensibly improved; the large indurated cervix has been greatly reduced, and looks quite normal in size and condition. Indeed, the whole organ is wonderfully improved in its general condition, and has every appearance of a near approach to a healthy standard.

My first visit to this patient was January 20th, 1878. She has, therefore, now been under treatment up to May 20th, 1878—just four months. [At the time of writing, the uterus measured a little less than two and a half inches in depth. Since this time the uterus has gradually decreased in size under the pressure, until its measurement, June 5th, 1878, was two inches, when the tampons were suspended and a metalic stem pessary introduced. She is now, June 15th, menstruating with stem *in situ*.]

These cases have been selected from among many which I have treated by this method. They are typical cases, and serve to illustrate my purpose. It is unnecessary here to discuss the value of pressure, or the method by which it acts. It is known to possess marked and decided powers, and especially so in parts where circulation and nutrition are impaired, and the blood vessels have lost their tonicity. As a sorbefacient, it is positive and speedy in its action. Prof. Gross likens it to mercury. He says: "The general effect of the bandage would seem to be somewhat similar to that of mercury, controlling capillary action, and promoting the ab-

sorption of effused fluids." If it can be successfully applied to chronic diseases of the uterus, as the foregoing cases would indicate, it must bring to gynæcology a boon which, in time, will supplant much of our unsatisfactory uterine therapeutics. In the treatment of chronic congestion, subinvolution, hypertrophy, hyperplasia, and such like intractable conditions, we are constantly and painfully reminded of the incompleteness of our resources, and any remedy making reasonable pretensions to improvement upon the old *regime* so vigorously and confidently inaugurated by Bennett, must receive a glad and joyous welcome.

Method of Making Pressure to the Uterus.—"The vagina is a musculo-membranous tube remarkable for its extreme dilatability. * * * Elastic elements everywhere pervade this musculo-membranous structure, forming an enormously dilatable channel of communication between the external genitals and the uterus. * * * The two columns—probably the transverse processes, also—are not exactly opposed, permitting a kind of dovetail approximation of the antero-posterior surfaces, and so more effectually closing the vaginal canal."—(*Savage.*) Its outlet is narrowed and contracted by the structures forming the pelvic floor, and chiefly by the ischio-pubic muscle and the perineal body. Its vault receives the neck of the uterus, to which it is attached, and in such a manner as to form the vaginal cul-de-sac. The vagina, then, in its natural and undistended condition, is a narrow, closed canal, its surfaces closely fitted by dovetail approximation; but when distended to its full capacity, by placing the woman upon her knees and chest, and lifting the perineum for the admission of air, as so clearly taught us by Dr. Sims, all is wonderfully changed. Instead of the closely approximated and narrow canal, we have an enormously distended channel, in which, ordinarily, the finger sweeps without touching either sides or summit. The cervix, before easily reached, is now beyond the touch, and, instead of dipping into and resting upon the vaginal vault, it hangs from the upper extremity of the vagina, and occupies, with the whole pelvic roof, the utmost elevation.

In this changed condition of things, we find the vagina presenting in shape somewhat that of an irregular cone, with its base above and apex below; and in this changed condition, with the uterus *hanging from the vaginal vault from one to two inches higher* than its normal position, the tampon is applied, filling completely and compactly the entire vagina.

The knee-chest position being now exchanged for the

usual and normal positions of the woman, the gravitation of the viscera is directed to the pelvic outlet instead of from it. The effort of the parts to seek their old positions meets with resistance—below, from the tampon and pelvic floor, and above from the force of the superimposed viscera and abdominal muscles. Here, then, we have a pressure certainly moderate in degree, *but positive and continuous.*

All must acknowledge the power of continuous pressure, however small in extent, upon the living structures. I claim for the tampon moderate, constant, equable and elastic pressure upon the entire uterus, but greatest upon the cervix.

Method of Applying the Tampon.—In applying the packing, it should always be borne in mind that the vaginal canal *must be distended and elongated* to its utmost capacity; and the uterus must occupy its *utmost degree of elevation* in the pelvis. These can be obtained only *in the knee and chest position*, so accurately detailed by Dr. Sims.

The material for the tampon should be of *sheep's wool.* Its elasticity and porosity especially fit it for this purpose. It should be clean and carded into bats, and properly disinfected with carbolic acid. The essential prerequisites, then, for the packing are: *the position of the woman,* Sims' speculum, dressing forceps and sheep's wool.

Before a good direct light, across the bed, upon a good hard mattress, or better, upon a table, the patient is placed upon her *knees and chest*, with the knees *directly* under the hips, and a little separated. The thighs should be *perpendicular and at right angles with the table.* "She must not arch the spine upward, for this brings into forcible action the abdominal muscles, which should be perfectly relaxed, with the spine rather curved downwards, as we see it in swaybacked animals. With these precautions fully impressed on her, she is to breathe easily, and relax the muscles of the abdomen." (Sims.) Dress strings and corsets should be removed or loosened completely. Many women, usually short ones, are unable to bring the chest flat upon the table, but they can "bend the body forward until the head is brought down to the plane of the table, where it may rest in the two hands, its weight supported on the left parietal bone, while the *elbows are thrown widely out from the sides.*" (Sims.) The *outstretched elbows* bring the chest, as nearly as possible, always upon the table. These details may appear tediously careful, but without an attentive observance of them, the tampon will fail in its objects.

The carded wool bats should be broken into small pledgets,

or separate pieces; the patient in position as described, the perineum elevated, with a short and broad blade, Sims' speculum, and we are ready for the packing. The first one or two pieces of the tampon to go immediately over the cervix should be *cotton*, well filled with the best quality of glycerin. The cotton holds the glycerin better than the wool. These little pieces should contain as much glycerin as they can be made to hold, by placing the cotton in the palm of the hand and rubbing in the glycerin, little by little, until it is a pulpy mass. These may be placed, with the dressing forceps, immediately upon the cervix, or one behind it, and the other in front. The pledgets of wool are then successively applied dry, each one being first rolled upon itself rather tightly in order to give the requisite firmness and solidity to the packing. The vault of the vagina is first well filled, and the packing proceeded with *carefully*, the pledgets rolled upon themselves, being placed here and there, and *packed* with probe or dressing forceps—all parts of the vagina being packed as equally firm as possible, and yet not too solid at any point for discomfort. The vaginal canal is thus filled down to the muscular floor of the pelvis, but not below it. If the vaginal outlet is distended, it will give discomfort, and a portion of the tampon may be lost. The vaginal orifice should close over the filling.

The *therapeutic effects* of pressure by the tampon upon the uterus are much the same as pressure elsewhere. We may safely classify its field of action as follows:

1st. It diminishes blood supply and nutrition.

2d. It is in the first degree a sorbefacient.

3d. It destroys redundant tissues by destructive metamorphosis.

4th. It diminishes nervous action.

5th. It rectifies malpositions.

In this classification, we recognize a wide field of action, adapted to a variety of important pathological conditions of the uterus, among which may be found the most intractable in the whole range of gynæcology. Subinvolution, hypertrophy, hyperplasia, congestion, chronic inflammation, inflammatory deposits, fibroid growths and uterine hyperæsthesia come especially within the compass of its action.

Effects of the Tampon upon the Vagina.—Without experimental knowledge of the operation of the tampon in the vagina, I would be led to suspect frequent intolerance and other unpleasant effects. Such, however, is not the case. Vaginitis, irritable canal, and *acute* inflammation in the pel-

vic organs, contra-indicate the tampon, and, when they exist, should be removed or modified before putting and keeping the canal on the stretch. Such conditions of the vagina may be very effectually remedied by commencing with very small tampons, applied only to the vaginal vault, and *gradually* increasing them to the full size. In the subinvoluted and lax condition of the vagina, so frequently accompanying diseases of the uterus, it has the effect of gradually restoring the healthfulness of the canal.

If the tampon is firmly applied in the beginning of its use, it will frequently cause abrasions upon the vaginal wall, which may necessitate its discontinuance for a few days. The vagina should always be, at first, lightly packed, or, as I frequently prefer, *partially packed*, filling simply the vaginal vault. A little simple cerate upon a soft cloth, applied to the abrasions when they occur, will enable us to continue the packing, when desirable, and heal the abrasions at the same time.

Now and then a badly-shaped vagina is found, especially in connection with old versions and flexions, causing partial loss of the tampon; and, in very fat women, the dilatation of the vagina is, at first, not sufficient to give the packing the cone-shape necessary for its retention, and it may be partially or entirely expelled. These difficulties, however, are exceptions, and are gradually overcome, as the canal becomes more capacious, and normal in shape—so soon as the cul-de-sacs and vaults of the vagina have enlarged, and we can give a more decided cone-shape to the tampon. The tampon is retained without difficulty when its base is above and its rather broad apex rests below, upon the pelvic floor. The few days rest the vagina gets during menstruation, when the packing is always left off, is quite sufficient for months of continuous treatment.

In his *Uterine Surgery*, Dr. Sims calls attention to the existence of a constriction of the vagina in its superior portion, just below the cervix. My observation is that most vaginas have this *superior constrictor vagina*, and often not observable until the vaginal canal has been well dilated by the continuous use of the tampon, when it becomes distinct and prominent. This constriction is more marked posteriorly, and at this point occasionally becomes the seat of abrasions from the pressure of the packings. The intervention of a piece of soft cloth with a little cerate to protect the abraded surface from contact with the wool and a little lighter packing just at this point, is all that is necessary for speedy reparation.

The dilatation of the vaginal canal consequent upon the continued use of the tampon, can have no bad results upon the normal and healthy vagina; and upon the mal-formed and large subinvoluted vaginas, the final and permanent results are the most satisfactory.

The effects of the tampon upon the distant and distressing sympathies, are often of the most gratifying nature. In Case II, this was especially noticeable. The vomiting had been continuous and alarming for five consecutive months, and the patient did not vomit after the second tampon. The prominent and leading constitutional distress is often the first to disappear. In Case III, nausea, and in Case IV, nausea and vomiting were prominent and distressing symptoms. In each, these disappeared, from the commencement of treatment, not to return again.

In Cases II, III and IV, the patients had been, for different lengths of time, closely confined to bed from two to twelve months respectively. In each case the patient was walking everywhere in a few weeks.

These results are remarkable, and are such as are certainly not attainable in similar conditions and in the same length of time by any other known method of treatment.

The Comparative Merits of Pressure.—Taking a case of the so-called *chronic metritis*, with its usual complications, in illustration, the treatment would be, according to the most approved and recognized methods, by cauterization, scarification, leeching, tents, or the milder alterative method of iodine, bromide, etc. These are used singly or combined, according to the peculiar fancy of the operator. Efficient work is recognized, if in twelve or eighteen months a perceptible softening in the indurated tissues has occurred, and if a slight diminution occurs in the bulk of the enlarged organ, and a perceptible decrease in its sensitiveness with corresponding improvement in the constitutional sympathies and the general health. I am sure I make no exaggeration (and the cases reported bear me out), when I say that I have accomplished more by *pressure* with the tampon in a few weeks, than could have been done in months by the usual methods.

1. We have, then, as important comparative merits, *more immediate and speedy results.* This is certainly a desideratum when we consider the long time necessary, and the uncertainty of cure in subinvolution. hypertrophy and chronic metritis.

2. In the usual methods of treatment by caustics, sponge tents, etc., if a safe rule is adopted, the patient is in bed from

three to ten days, according to circumstances, at each treatment. By the tampon, there is not only *no confinement to bed*, but the ability of the patient to exercise to the extent of her strength, without damage, is greatly increased. Thus are we enabled to contribute materially to the pleasure and comfort of the patient, as well as to the greater security and improvement of her general health.

3. Treatment by the tampon suspends absolutely the *sexual relations*—a matter oftentimes of considerable importance in the results of treatment, and one, too, in which we so often fail to get voluntary co-operation.

4. The inflammatory accidents incident to other efficient methods of treatment do not apply to the tampon.

5. While caustics and the curette harden the tissues, and close, more or less, the uterine canal, *pressure by the tampon* softens the tissues and dilates the canal.

6. Caustics and the curette establish alterative and healthy action by a sacrifice of structure, and a sacrifice oftentimes damaging and irreparable, while, by the tampon, the integrity and identity of the tissues are in no way interrupted.

The thorough scraping of the uterine cavity by the curette, in fungus degeneration of the mucous membrane, must, in a certain proportion of cases, remove the mucous membrane, not only entirely, but permanently; and still more frequently must we have the same results from strong caustic applied to the cavity. The fuming nitric acid applied to the uterine cavity, as taught by Dr. Athill, is, with many, a favorite method of treatment, and, in my opinion, if efficiently done, as taught by Dr. Athill, will rarely fail to destroy completely the mucous membrane; and in such removal we can have but one result, viz.: cicatricial tissue, in place of mucous membrane, lined with polomorphous epithelium, in place of the delicate, ciliated columnar. Following such important textural alterations, sterility and uterine hyperæsthesia, with their train of evils, must almost of necessity come, and with them a permanent pathological condition of the organ.

While I cannot, as yet, bring forward any considerable number of cases of fungus degeneration of the mucous membrane of the uterine cavity treated by the tampon, its invariably prompt beneficial results, controlling the menorrhagia and metrorrhagia at once, attest it a remedy of decided powers in this direction.

In 1856, at the Woman's Hospital, Dr. Sims accidentally discovered the power of the sponge to destroy polypoid growths of the uterus. A large fibroid polypus, filling up

completely the uterine cavity, was destroyed by the pressure and drainage of a sponge, which had been forgotten, and left in place for a week. He and Dr. Emmet subsequently destroyed small polypoid tumors and fungus granulations by means of the sponge. Dr. Emmet was very fond of the sponge for general hypertrophy, and, according to Dr. Sims, claimed to have often succeeded in doing more in such cases in a week's time than could be accomplished by any and all others in two or three months. The occasional septicæmic poisoning and inflammatory troubles occurring from the sponge, have deterred many, and made all more or less timid in its use.

More recently, some of our English friends have claimed originality in the destruction of small fibroid growths of the uterus, by the pressure *of tents*, combined with caustics and packing, to the cavity of the uterus. The idea belongs to Dr. Sims, whatever variety of tent or packing to the uterine cavity be used, and the use of powerful caustics in connection with the tents, is certainly not an improvement upon the method of Sims, and, to say the least, it is of doubtful propriety.

Small tampons of cotton have long been in use as temporary pessaries in displacements. Dr. Sims thought well of them, and applied them always with glycerin. He devised a port-tampon, for their ready application by the patient.

Dr. Thomas, in his *Diseases of Women*, recommends pledgets of cotton placed in the posterior and anterior vaginal cul-de-sacs, and the vagina lightly filled with cotton to keep these in place, in posterior displacements, as a temporary and preparatory measure for the use of pessaries.

Schrœder adopts a somewhat similar plan in certain displacements.

Prof. Fordyce Barker, in 1853, wrote a paper on the treatment of procidentia by the use of tampons wet with a solution of tannin.

The tampon used in the manner which I have indicated, and for the purpose of *pressure*, has not heretofore been done.

Where there are complications of endometritis, fungus degeneration of the mucous membrane of the cavity, or granular erosion of the os, I frequently combine, with the tampon, other means of local treatment. Iodine or iodoform occasionally applied to the diseased cavity may advantageously precede every other application of the tampon. In fungus degeneration of the mucous membrane, laminaria, or better, Sussdorff's tupelo tent may be applied to the cavity

and the tampon over it. By this means we make pressure from within as well as from without. My friend, Dr. Simpson, of this city, tells me he has recently been using the cloth tents, gradually increasing in the size, with iodoform, in conjunction with the tampon, with very satisfactory results. In my own cases, when I think it best to combine other means of treatment with the tampon, I usually select Sussdorff's tupelo tents, or my own cloth tent.

The cloth tent is always preferable when intra-uterine medication is desired in conjunction with intra-uterine pressure. With this tent, we may apply to the diseased cavity, very thoroughly, iodine, iodoform, zinc, cantharidal cerate, etc. Iodoform to the cavity of the uterus and to granular erosions, is a great favorite with me, when used with the tampon. Applied as a plaster to the cervix, it is kept smoothly and perfectly in place by the tampon until removed. The iodoform is a mild and pleasant stimulant and alterative, and at the same time a local sedative. These mild and simple measures are usually quite sufficient, when used with the tampon, for endometritis, erosions, and fungus mucous degeneration, and the uterus is saved the rough usage and bad results incident to caustics and curettes.

In advocating any special method of local uterine treatment, I would not wish to be understood as under-estimating the value of constitutional treatment, adapted to the particular requirements of individual cases. In subinvolution, for instance, ergot is an important aid to any local method in the re-instatement of the suspended involution. In areola hyperplasia, the so-called chronic metritis, ergot is an invaluable agent in the establishment of the retrograde metamorphosis necessary to restoration of health in the organ. Guiac will meet the constitutional indications in many cases, particularly where there exists a gouty or herpetic element. We must not forget to look to such important auxiliary constitutional measures, in the special conditions calling for them, as may be found in cod liver oil, iron, iodide of potassium, and bi-chloride of mercury.

Radical Cure of Hernia by Dowell's Operation.—Dr. C. N. Worthington, of San Jose, California, in the *Pacific Medical and Surgical Journal*, August, 1878, says: I here repeat what I have before said, "If the patient is in good health, and the *work properly and well done*, there will not be a failure in one case out of twenty." He then gives the following cases:

Case I.—Mr. G., aged about forty-five, had bubonocele in the left side, caused five years before from an external injury that ruptured the external and internal oblique muscles, as well as the transversalis, above the internal ring. No truss would keep the parts in place for a day or night without suffering. On the 11th of December, I operated on him, assisted by Dr. Spencer and Dr. M. S. McMahan, Mr. J. B. Rhodes giving chloroform. I introduced three sutures. He did well, except from a colic caused by eating beans for breakfast. From this he suffered all that one ever suffers from colic. The sutures were removed on the eighth day. All seemed well; but in three weeks I found the rupture not quite closed at the upper part. On the 14th of January, assisted by Dr. Spencer, I introduced two sutures, closing the opening completely. At this time, six months afterwards, he seems quite well, going everywhere, attending to business without a truss or any kind of support. Had four stitches been used at the first operation, a second would not have been required.

Case II.—Mr. M., aged twenty; right inguinal hernia, scrotal, four years standing, arising from a strain by falling with a heavy load on his shoulder. On June 3d, I operated, assisted by Dr. Spencer, of San Jose, and Dr. Farley, of Gilroy (who came specially to see it), B. J. Rhodes giving chloroform. This rupture was closed with three sutures, and without an untoward symptom went on to cure. I removed the sutures on seventh day, and eleventh day he was walking the streets with the usual pad as support, and now seems as well as on the other side, but better supported. This operation belongs to regular and practical surgery, and he that denounces it decries an operation as much entitled to its place in our text-books as the reduction of dislocations or adjusting of fractures. Against all opposition, it has been performed over 100 times to my knowledge, with less than 20 failures, or one in five. Not an accident or death has resulted, and none have been left in a worse condition than before.

The Cæsarean Section in a Theological Aspect.—A medico-theological question has lately been agitated in the French journals in reference to children extracted by the Cæsarean operation. The performance of the rite of baptism has been hitherto restricted to those children that have presented any signs of life after removal from the body of the woman. This is also the rule in England. In France, the operation

appears to have been recently performed as much for the purpose of securing a subject for baptism as for the saving of the life of the child. Judging by a case which is recorded to have occurred at Champoly, the life of a woman is of secondary importance under these circumstances. A woman named Dumas is said to have died from the Cæsarean operation, performed on her by a pork-butcher, under the direction of a priest. There was an inquiry, but it came to nothing. The reclamations of the press and the remonstrances of the profession have had no effect. The sole object of the priest was to have the child removed by extraction, in order that the rite of baptism might be performed on it; and he doubtless selected a non-professional operator from the difficulty of finding a member of the medical profession to assist him in his views. Dr. Depaul, an eminent obstetric surgeon, in commenting upon the facts of the case, truly states that the conduct of both persons was illegal. In dealing with the theological question, Dr. Depaul makes a few observations which may be of use to medical practitioners on these occasions. A medical man must not surrender his judgment for the performance of this operation to the dictation of a priest or any other person. If he performs the Cæsarean section, he must perform it on his own responsibility and on reasonable grounds, such as would be sanctioned by professional practice. It is a delicate question whether it should, in any case, be performed on a living woman, as it might accelerate her death. If performed in advanced pregnancy, within a quarter of an hour after death, the child may be equally removed living. The safety of the woman should in these cases predominate over all other considerations. The operation may cause the immediate death of a woman, and this act of vivisection would not be justifiable merely for the sake of baptizing a child which might die immediately after its extraction from the uterus. In France, it is much more common to operate on a living woman than in England; but the English law, which allows the husband to inherit the property of his wife, renders it a necessary condition that the child must be borne or extracted while the woman is living. Hence it is to the interest of the English husband to have the child extracted from the wife before her death. Medical men have nothing to do with the theological questions connected with the subject. They are of greater importance in Roman Catholic than in Protestant countries. The text of the law in France is that a child can only be baptized after its birth, and the moment of its birth is indicated by its

appearance in the light of day, whether this appearance be the result of natural or violent causes—*i. e.*, by delivery or the Cæsarean extraction. Theologians do not admit that baptism can be performed on the child in utero through the abdomen of the mother; and it is a moot point whether, in partial delivery, it can be performed unless the head of the child is presenting. The Academy of Medicine have had this subject under discussion, but they have come to no formal resolution. They discourage the performance of the operation on living women; and even in reference to the dead they advise that it should not be performed, unless the child is viable, or unless it has reached such a stage of gestation as to enable it to live after extraction.—*British Medical Journal—Pacific Med. and Surg. Jour.*, August, 1878.

Treatment of Uterine Fibroids with Galvanism by Profound Puncture is the title of a most valuable article in the July number, 1878, of the *American Journal of Medical Sciences* by Drs. Gilman Kimball and Ephraim Cutter. The paper is the one which was substantially, if not verbally, offered at the recent session of the American Medical Association. The treatment by the plan indicated in the article was begun in 1871. Of the 50 cases treated since that time, in seven cases, the growth was not arrested; four died; in thirty-two cases the growth was arrested; three cases were relieved and four cases cured.

The battery used by these gentlemen consists of eight plates each of carbon and zinc, 9 by 6 inches. The first four pairs are arranged zinc and carbon; the remaining four carbon and zinc. They are pierced with three circular holes, arranged triangularly—two at the top, and one in the centre, below. Cylinders of hard rubber run through and secure the plates in position by means of nuts. The conductors are made of copper, and are properly insulated; at their extremities are the electrodes. The solution used in the battery is made by the following formula:—℞. Patassium bichromate, saturated solution, ʒj; sulphuric acid, ʒvij. Quantity of current is what is required, and it must be profoundly applied, and galvanic action must be confined to the tumor alone.

The zinc electrode comes away readily after the operation, but the carbon electrode sticks in the tissues. This is cited as an evidence of the passage of the galvanic current through the electrodes.

The duration of the application of the electrodes has varied from three to fifteen minutes. In each individual case the

applications have varied in number from one to nineteen, at intervals of from seven to fourteen days.

The electrodes may be introduced directly through the abdominal, or the vaginal, or the rectal walls, into the fibroid.

Of the fifty cases, only three seem to have been negresses.

Chloral Hypodermically for Cholera.—In a very interesting London letter from Dr. J. Milner Fothergill, to the Philadelphia *Medical Times*, August 17, 1878, the writer says: Attention has been called of late to the work of Surgeon A. R. Hall in connection with cholera. Extensive experience of it, including an attack personally, brought him to the conclusion that the pathology is that of spasm of the smaller arteries and arterioles, with fulness of the veins, and squeezing out of the serous portion of the blood from the venules of the intestinal canal. The character of the pulse and the complete suppression of urine, the cold extremities and the generally gelid condition, bore out such a view. Being possessed of such an interpretation of its pathology, Mr. Hall rationally concluded that some vascular depressant would be more likely to be serviceable in the relief of the condition than the measures hitherto adopted. He decided to try the subcutaneous injection of chloral, with such success that he brought the subject before the London societies. But, fortunately, of recent years cholera has been but a subject of scientific interest to English practitioners, and little interest was awakened by these new views. It is in the East, and notably in British India, that the practical interest in cholera is centred. From information privately received, Mr. Hall has had further opportunities of pursuing his practice, with very gratifying results. As is well known, when cholera is on the decline, no trustworthy observation can be made; if a line of practice is to be fairly tested, it must be at the commencement of an outbreak, when the terrible malady is on the rise. Placed at Gwalior, the case which occurred there got well; but at Morar, some four miles away, the outbreak was severe. Every case had either died or was dying, according to the admission of the surgeon in charge. At this time no less than twenty-three had died. In the hospital were other nine, of whom four were decidedly moribund and beyond the possibility of any hope. Five were still potentially alive. To these chloral was given by injection in a solution of one part to ten of water, and from nine to twelve and up to eighteen grains of chloral were injected, and repeated as required according to the exigencies of each case. * * * * Of

these five, four were well at the date of the letter; one died after two days uræmic poisoning, "reaction never being established." The previous treatment had consisted of chalk and opium, *per secundum artem*, and in some cases the hypodermic injection of morphia had been practised and stimulants had been co-administered. After this, six other cholera patients came into hospital, and of these, treated on the above plan, five completely recovered. The other man was a hard drinker; but in his case even all symptoms of cholera had ceased, and he was passing semi-solid stools, when low delirium set in, and he succumbed. * * * * Thus, of six treated with chloral from the commencement, five returned to duty; of five handed over and to whom the chloral was then given, four are quite well. A woman who was brought in after the heart sounds had ceased to be perceptible, and injected with chloral, and who had previously been actively treated with rum and chlorodine, dyed in convulsions in ten hours; but here there was a certain amount of reaction established, and the temperature rose to 100°. Two children to whom chloral was not given died forthwith. Of the cases which recovered, one man had total suppression of urine for more than one hundred hours, while another had almost complete suppression for over ninety hours and was comatose for two days. Yet these two men completely recovered. Such success certainly demands that further trials should be made and the plan be thoroughly tested. * * * * But enough has now been done to demonstrate that the plan is worthy of being investigated on a large scale; and also, from what was said in the early part of this letter, it is desirable that the plan be tried by other practitioners, always provided that they follow out the instructions and the method in its entirety, so as to give it the fullest and fairest trial possible. Of the outbreak in and around Morar, of fifty-one Britishers attacked no less than thirty-six cases proved fatal; of a detachment of native infantry, three hundred and twenty-one strong, no less than one hundred and nine were attacked, and of these fifty-five died. This will furnish some estimate of the virulence of the outbreak.

Hiccough Cured by Compression.—A case is cited from a French journal, in which hiccough which had been "incessant for fifty days," was cured in five minutes by powerful compression over the epigastrium. All other conceivable means had failed.—*Pacific Medical and Surgical Journal*, August, 1878.

Fifty-Two Consecutive Successful Cases of Lithotomy.—Dr. Alan P. Smith, of Baltimore, recently Professor of Operative Surgery in the University of Maryland, as a part of the Report of the Section on Surgery (*Transactions of the Medical and Chirurgical Faculty of Maryland*, 1878), says: "Up to the present time (April 9th, 1878), I have performed the operation of lithotomy fifty-two times, and in each instance without the loss of life. Of these, 16 were below five years of age, 13 between five and ten years, 11 between ten and twenty years, 5 between twenty and forty years, and 7 between forty and seventy-five. Four were below two years of age, the youngest being twenty-one months. The oldest patient was seventy one years. Of the whole number, only two were negroes; these, curiously, were the youngest, of twenty-one months, and the oldest, seventy-one years.

The ordinary grooved staff and knife were employed in only six of these cases, while in the remainder, the operation was performed with the lithotome, devised by my father, the late Prof. N. R. Smith. To the use of this instrument I attribute the fact, in a very great measure, that all of my operations have resulted so satisfactorily. My cases have not been selected, as I have operated in every instance where the opportunity offered, except one, in which the patient was brought into the hospital moribund, the man dying soon after admission. A *post mortem* revealed two stones in his bladder. In all but four cases the calculus was found to be single; in three, there were two; in one case, four calculi were extracted.

I have always observed certain rules, which have possibly been of some assistance in determining the result. I never operate when the barometer is low, preferring to postpone my work from day to day until the weather is bright and clear. This rule, I believe, applies equally to all grave surgical operations which will admit of delay. I have never used, except in some of my earliest cases, the drainage-tube passed into the bladder through the wound to facilitate the flow of urine, in the first twenty-four hours after the operation, because I have found that the presence of the tube gives rise to violent irritation of the already sensitive bladder. Instead of employing it, I prefer seeing my patient several times during that period; and if I find that the urine does not pass off freely through the cut, I introduce a gum catheter through the wound, and permit it to remain only sufficiently long to empty the bladder. This is rarely necessary in young subjects, but in adults there is almost always retention during

the first twenty-four hours; rarely after that period. I always make my first incision—that is, through the skin and subcutaneous cellular tissue—very free, so that there may be no pocket in which blood, urine or pus may collect. After the operation, I annoint the parts adjacent to the wound freely with carbolized oil.

I have stated that I attribute most if not all of my success, to the use of the instrument conceived by my father. I have said so, because by its aid the only two difficult features in the cutting part of the operation are made perfectly easy and mathematically certain. I refer to the first incision made through the skin and cellular tissue down to the groove in the staff, and afterwards to the passage of the knife along the groove into the bladder. Dr. Smith, in referring to these two steps of the operation, says: 'I know not how it may appear to other operators, but to me the cutting with the scalpel for the groove of the staff, the introduction of the gorget or knife into the groove of that instrument, the anxiety which is felt in regard to its being properly fixed, and the means which are necessary to determine with certainty whether it may be pushed forward with safety, constitute the most painful and perplexing part of the operation.' * * * * The instrument seems to me to be as nearly perfect as possible, and the only objection that I have ever heard urged against it, fell from the lips of a distinguished professor of surgery, who rather complainingly said that 'with it *any one* could operate.'

Some of my friends say that luck has helped me much, and the following illustrative case would seem to prove the truth of the assertion. Several years since a little boy with calculus was brought from Virginia to my father; and he not feeling well on the appointed day, requested me to do the operation for him. Chloroform had been administered, and I was about to proceed, when the father of the child interrupted me, saying that he had brought the case to Dr. N. R. Smith, and desired that he should do the operation. I, of course, at once made way for him, and he, with his accustomed skill and dexterity, soon removed the calculus. The patient was placed in bed and left doing perfectly well; but in the course of two or three hours, was seized with convulsions, and died before either of us could reach him. * * * *

Almost the only trouble that I have experienced after the operation has been from hæmorrhage, and that only in a few instances. I have always used opium freely in my after-treatment. In every instance, but one, the patient was placed

under the influence of an anæsthetic; in that case there were reasons why nothing of the kind could be used, and upon assurance being given that the opperation would be done quickly, the patient submitted; the operation from the first incision to the extraction of the stone was accomplished in a few seconds less than a minute. In two instances, partial non-retention of urine was the result, and in one case there remained a small fistulous opening in the perineum, through which the urine occasionally dribbled. These occurred in ill-nourished and weakly children, who did not receive proper nursing or care, and who were allowed to be up and about before the wound had properly healed."

Varicella Occurring in an Infant Twenty-Four Hours After Birth.—T. Wells Hubbard, M. R. C. S. Eng., Lenham, thus writes: "*March* 17, 1878, I attended Mrs. M. in her seventh accouchement. On visiting her next morning, the nurse drew my attention to the child, 'who had a rash coming out;' its body was quite clear from any eruption at birth. I found a well-formed vesicle on one wrist, also several red papulæ on the face and forehead. The following day, another crop of vesicles and papules appeared, and the illness ran the usual course of a case of chicken-pox, lasting about ten days, the infant passing through the ordeal nicely. The mother was free from any vesicular rash, and had had no symptoms of illness whatever; but the other children, six in number, were suffering from chicken-pox in its various stages. Now, I believe the incubation in varicella is from three to four days, with a premonitory fever lasting from twenty-four to seventy-four hours, when the rash appears; how, then, are we to account for a child in so few hours from its birth contracting this disease? Either it must have been peculiarly susceptible to the above contagion, and the usual period of incubation and primary fever was wanting, or else the infection was conveyed through the parent to the fœtus *in utero*. I must add that the child had not been taken from, neither had the other children been admitted into, the lying-in room. This case will do away with the theory, held by some of the older physicians, that varicella only occurs in the vaccinated." *Amer. Med. Bi-Weekly.*

Diphtheria and Lactic Acid Spray.—Dr. H. Beyer, of Long Island City, reports two cases of severe diphtheria, successfully treated by the local application of dilute lactic acid in the form of spray.—*Brit. Med. Jour.*

Book Notices, &c.

State Regulation of Vice—Regulation Efforts in America—The Geneva Congress. By AARON M. POWELL. New York: Wood & Holbrook. 1878. 12mo. Pp. 127. (From Publishers.)

The subject of the medico-legal regulation of prostitution has for several years been engaging the attention of some of the ablest and purest minds in sanitary science in America. It is difficult to arrive at a just conclusion as to what should have been done under the circumstances. Such is the depravity of human nature, as all must admit, that it is impossible by any law, or even by the teachings of the pulpit, or the denunciations of virtuous people, to prevent prostitution. As an inevitable result of the practice of this vice, diseases of the most loathsome character are contracted by thoughtless men, which diseases are conveyed to innocent wives and children. Viewing the subject solely from a medical standpoint, it would seem best that houses of prostitution should be licensed with the most stringent requirement of the most thorough examination of the inmates, and the immediate isolation of those found diseased. Morally, we do not undertake to argue the question. We leave this decision to a future day.

The book before us is argument against any legal license of the vice, and is written from a theological point of view. The book also contains the address of the New York Committee for the Prevention of Licensed Prostitution to the International Congress at Geneva. This committee is largely composed of ladies whose high sense of virtue makes them abhor with woman's hatred any license of a vice so corrupting to morals, dangerous to health, and the cause of interminable family trouble. It is but just, however, to remark that the book reviews too harshly the views of those pure men in our profession whose extensive practices compel them to recognize a necessity for some check, if possible, to the loathsome diseases contracted in impure embraces.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Held in Baltimore, April 9th, 10th, 11th and 12th, 1878. Dr. Samuel P. Smith, *President;* Dr. W. G. Regester, Baltimore, *Secretary.* Paper. Pp. 208.

These *Transactions* of this Eightieth annual session, while perhaps not so full as some former volumes, compares favor-

ably with them in point of ability of the papers presented. In the report of the proceedings in our May number, 1878, we gave a synopsis of the more important reports.

The address of the retiring President, Dr. A. B. Arnold, contains something of the history and exposes the tenets of *Homœopathy*, and is a valuable paper to all who wish to advise themselves as to the peculiarities of this peculiarly narrow-guaged school of practice.

An admirable steel-plate engraving of the lamented Dr. Nathan R. Smith faces the title page of Dr. S. C. Chew's well-written *Address*, commemorative of this leader in the field of American surgery.

The annual oration by Prof. Ira Remsen makes prominently important the study of *Chemistry in its Relations to Medicine*. He shows that the "discoveries of substances valuable in medicine are made [chiefly] by those engaged in the pursuit of pure science." He conclusively shows, contrary even to popular professional opinion, that the foul air of school-rooms, heated by furnaces, etc., is not charged with carbonic acid or carbonic oxide to such an extent as to prove specially deleterious to life or even health, and that our studies in this direction must be revised. The address is full of useful information to the general practitioner.

The following papers in these *Transactions* were mentioned in the synopsis we gave of the proceedings in our May number: Report of 52 cases of Lithotomy, by Dr. Alan P. Smith, of Baltimore; Apyretics and Antipyretics, by Dr. John S. Lynch; Chloroform in Obstetrics, by Dr. P. C. Williams; Report on Materia Medica and Chemistry, by Dr. J. E. Atkinson; Spontaneous Generation, by Dr. Frank Donaldson; General Paralysis of the Insane, by Dr. I. D. Thomson; Removal of a Naso-Pharyngeal Polypus by Temporary Depression of both Upper Jaws, by Dr. L. McLane Tiffany; A Case of Exophthalmus, and Destruction of an Eye by a Tumor, probably Cancerous, by Dr. Joseph A. White.

In addition to these papers then noticed, we have now to call attention to some Ophthalmological Notes by Dr. A. Friedenwald. In these notes he states a preference for ether as an anæsthetic, when administered by means of the apparatus devised by Drs. Rohé and Leonard, of Baltimore. The remainder of his notes relate principally to the treatment of spasm of the accommodation.

In Dr. John N. Monmonier's Report of Cases, we find one of partial excision of the os calcis and astragalus; two cases of extroversion of the bladder, and one case of extirpation of the superior maxillary nerve—all important cases.

Dr. Thomas R. Brown contributes a very valuable review of the eleven methods already proposed for the treatment of urethral stricture.

Dr. John Van Bibber proposes what he styles *The New Treatment of Chorea*, consisting chiefly in rest with massage and general treatment to meet indications. But the cases he details are not more encouraging in their results than those treated by Prof. Stevens, of Albany, N. Y., consisting in adapting proper glasses to the eyes.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F. R. S., F. R. C. S., Lecturer on Anatomy at St. George's Hospital Medical College. With 522 Engravings on Wood. With an Introduction on General Anatomy and Development. By T. HOLMES, M. A., Cantab., etc. To which is added *Landmarks, Medical and Surgical*, by LUTHER HOLDEN, F. R. C. S., Philadelphia: Henry C. Lea. 1878. (For sale by Messrs. West, Johnston & Co., Richmond.)

This work is as near perfection as one could possibly or reasonably expect any book, intended as a text-book or a general reference book on anatomy, to be. It "has had the advantage of three revisions at the hands of the distinguished editor, Mr. Holmes, since the appearance of the last American edition." "A few illustrations have also been inserted in the introductory section." The proof-sheets have all been corrected by the careful eye of Dr. Richard J. Dunglison, of Philadelphia. The English editor, Mr. Holmes, makes due acknowledgments to Prof. Darling, of the New York University, for the correction of a few errors of description in former editions.

The American publisher deserves the thanks of the profession for appending the recent work of Mr. Holden—"*Landmarks, Medical and Surgical*"—which has been already commended as a separate book. This latter work—treating of topographical anatomy—has become an *essential* to the library of every intelligent practitioner. We know of no book that can take its place—written, as it is, by a most distinguished anatomist. While noticing this edition of "*Gray's Anatomy*," which, it is unnecessary to say, is *the standard*, it is proper to add, for the benefit of those who have former editions of the Anatomy, and who have not the means for the purchase of the present edition, that the "*Landmarks*" is also published as a separate volume—12mo, 128 pages; cloth, 88 cents.

It would be simply a waste of words to attempt to say anything further in praise of "*Gray's Anatomy*"—the text-book

in almost every medical college in this country, and the daily reference book of every practitioner who has occasion to consult his books on anatomy. The work is simply indispensable, especially this present American edition.

Transactions of the Medical Association of Georgia. Atlanta, April 17, 18 and 19, 1878. Paper. Pp. 279. Dr. John Thad. Johnson, Atlanta, President; Dr. James B. Baird, Atlanta, Secretary.

The retiring President, Dr. W. O'Daniel, of Bullards, devoted his address to some suggestions for the good of the profession and the Association.

Dr. William R. Burgess, of Macon, tells, in the form of the annual address, what he thinks of "Hasty, Unwise and Unfortunate Medical Literature." Every doctor who intends writing for publication should carefully revise his manuscripts by the good advice contained in this address. It is first-rate.

Dr. R. B. Dostor, of Blakely, details a case of "Amputation of the Leg for Necrosed Tibia of Thirty-four Years' Standing." Recovery. Dr. T. F. Walker, of Cochran, reports some cases—one of "Abnormal Conception;" one of "Puerperal Eclampsia." Recovery. Dr. George J. Grimes, of Columbus, reported a case of "Tubercular Meningitis." Death. Simple reports of cases benefit the profession more when reported in the journals than when locked up in Society Transactions, copies of which are rarely seen outside of the State.

A most important contribution is made by Dr. J. C. Le Hardy on "Yellow Fever: Its History, Causes, Nature, Pathology and Treatment, Considering Exclusively the Epidemic of 1876 in Savannah." He regards the fever as a malarial disease. He is convinced that the disease may originate in the United States. Importation is not necessary for its production.

"Neuralgia, and its Modern Therapeusis," is the title of a valuable paper by Dr. James B. Baird, of Atlanta. We wish we had the space to reproduce it in our columns.

Dr. A. W. Calhoun, of Atlanta, reports 137 operations for strabismus. His favorable results justify his recommendation to divide the offending rectus muscle.

Dr. A. W. Griggs presented the Report of the Section on Gynæcology for the Fourth District. The subjects considered in this report are (1) Acute Suppression of the Menses; (2) Membranous Dysmenorrhœa; (3) Dyspareuria; (4) A

Case of Anteflexion of the Uterus with General Hyperæsthesia of the Peripheral Nerves, treated by the use of galvanic electricity. Conception occurred after two months' treatment. (5) A Case of Torsion of the Uterus; (6) A Case of Occlusion of the Vulva; (7) Occlusion of the Vagina, with Retroversion of the Uterus; (8) A Case of Rupture of the Perineum.

We cannot altogether commend to the young practitioner the article by Dr. S. H. Stout on "Psoriasis, Non-syphilitica, popularly known in a variety of forms as tetter," for it contains several technical errors. For instance, the article speaks of a syphilitic psoriasis which all the best authors on the subject tell us does not exist; also, we may refer to page 153, whereon he prescribes "potassæ arsenitis," when in reality he means *liquor* potassæ arsenitis, f ℥ j. He shows no familiarity with the approved writings of Mr. Balmano Squire, Dr. Duncan Bulkley, and others of recent date, whose practice, in what Dr. Stout calls—following some older writers—"psoriasis, non-syphilitica," is more decidedly curative.

"The True Physician" is the title of an excellent address by Dr. T. S. Powell, of Atlanta, that would serve as good advice for some "slack-twisted" members of the profession.

We regard the paper of Dr. V. H. Taliaferro, on the "Application of Pressure in Diseases of the Uterus," as of so much value that we reproduce it in full (except the wood cuts) under the head of Analyses, Selections, &c., in this number.

In our August number, we gave a partial synopsis of the paper by Dr. W. T. Goldsmith on the "Pith of the Dried Cornstalk as a Uterine Tent." The suggestion will be found of special value to our country subscribers who may have to prepare their own tents of material at hand.

The report of the Section on Surgery for the Third Congressional District, by Dr. A. A. Smith, of Hawkinsville, details several cases in his practice, viz.: One of Incised Wound of Abdomen. Recovery. One case of Hæmorrhoids treated with ligature, and another treated with nitric acid. Both recovered.

The "Report of the Section on Surgery for the Fifth Congressional District," by Dr. John Thad. Johnson, of Atlanta, details (1) A Case of Perityphlitic Abscess. Death. (2) A Case of Retention of Urine from Stricture due to the Adhesion of the Prepuce to the Glans Penis. Operation. Recovery. The report then reviews the question "What is the true value of caustics in the treatment of venereal ulcers?" His conclusions are similar to those well known to

"dualists." Dr. S. H. Gray, of Forsyth, adds a case of Gunshot Wound of the Head, in which the ball remained six years, without symptoms, in the head. Dr. Paul Fazer, of Fayetteville, also adds a case of Adherent Prepuce, Congenital, the Cause of Convulsions. Opisthotonos marked; relief by operation. Dr. J. L. Stephenson, of Griffin, details a Case of Rupture of the Uterus, and Escape of the Fœtus into the Abdominal Cavity; death. Dr. T. R. Whitley, of Douglasville, concludes the report by detailing a case in which a cocklebur remained in the lung for twelve years. Death.

Dr. William Abram Love, of Atlanta, presents a paper of a good deal of practical interest on the "Diagnostic Value of the Soft Palate as Compared with the Tongue in Certain Pathological Conditions."

Dr. C. B. Lettner, of Columbus, describes what he calls the "Tar Bandage," for which he claims advantages over others.

Dr. J. B. Roberts, of Sandersville, mentions a case of obstinate Hiccough, which was simply relieved—not cured—by chloroform. Electricity might have proved of more service.

The Necrological Report, the Constitution and By-Laws, and the Roll of Members, occupy the concluding pages of this generally excellent volume of Transactions.

Bibliotheca Medica—a catalogue of 2,300 medical books for sale by Messrs. Robert Clarke & Co., Cincinnati, Ohio. Also a catalogue of medical journals published in America. Price 25 cents for the book of 240 pages.

Books Reprints, Pamphlets Received, of which we have not the space to give further notice at present:

Pettengill's Newspaper Directory, 1878. Containing a complete list of the newspapers and other periodicals published in the United States and British America; also the prominent European and Australian newspapers. New York: S. M. Pettengill & Co. Cloth 8vo. Pp. 368.

"*What am I?*" A Valedictory address to the graduates of the Medical Department of the University of Louisville 1878. By J. M. Bodine, M. D., Professor of Anatomy and Operative Surgery of the Eye. 8vo. Pp., 28.

Eulogy upon Lunsford P. Yandell, M. D. By Theodore S. Bell, M. D., Louisville, Ky., 1878. Pp. 22. Reprint from *American Practitioner.*

Old age: Its Diseases and Hygiene. By Lunsford P. Yandell, M. D., Louisville. Reprint from *American Practitioner.* Pp. 14.

Investigations on the Effect of Prolonged Muscular Exercise on the Excretion of Urea, Uric Acid, Phosphoric Acid, Sulphuric Acid and Chloride of Sodium. By Joseph Jones, M. D., Professor of Chemistry and Clinical Medicine, etc. Reprint from *New Orleans Medical and Surgical Journal*, 1878. Pp. 15.

Message to the Medical Association of Alabama, 1878 (President's Address. By Peter Bryce, M. D., Superintendent Insane Hospital at Tuskaloosa, etc. Pp. 55.

Electricity in Medicine. By F. T. Miles, M. D., Professor of Anatomy, and Clinical Professor of Diseases of the Nervous System, University of Maryland. Reprint from *Maryland Medical Journal.* Pp. 17,

Tumor of the Male Breast and Cyst of the Neck. By John H. Pooley, M. D., Professor of Surgery, Starling Medical College. Reprint from *Ohio Medical and Surgical Journal.* Pp. 15.

Johns Hopkins Hospital. Reports and Papers relating to Construction and Organization, No. 5. On Heating and Ventilation. By J. S. Billings, M. D., Washington, D. C., Pp. 93.

Suspension as a Means of treating Spinal Distortions. By Benjamin Lee, A. M., M. D., Philadelphia. Reprint from *Transactions American Medical Association.* Pp. 23.

Observations in Practice, Surgery and Gynecology and especially Obstetrics. By George B. Walker, M. D., Professor of Obstretrics in Medical College of Evansville. Reprint from *Chicago Medical Journal and Examiner.* Pp. 33.

Fluid Extracts by Percolation. By Ed. R. Squibb, M. D., Brookland. Reprint from *American Journal of Pharmacy.* Pp. 41.

Cholera of 1873, *Revised.* By W. R. Sevier, M. D., Jonesboro, Tenn. Reprint from *Lancet and Observer.* Pp. 20.

The Medical Expert. By W. J. Conklin, M. D., Dayton, Ohio. Reprint from *Ohio Medical and Surgical Journal.* Pp. 20.

True and False Experts. By Eugene Grissom, M. D., LL. D., Superintendent Insane Asylum for North Carolina, Raleigh. From *American Journal of Insanity for July* 1878.

Louise Latean .on là Stigmatisée Balge. Par Le Dr. Bourneville, 2d Edition. Paris. (From Author). 1878. Pp. 88.

Treatment of Diphtheria. By P. F. Whitehead, M. D.,

Vicksburg, Miss. From *Transactions Mississippi State Medical Association.* Pp. 3.

Yellow Fever—The Epidemic of 1876 *in Savannah.* By J. C. Le Hardy, M. D., Savannah, Ga. Reprint from *Transactions of Medical Association of Georgia.* Pp. 36.

A Case of Vaginal Ovariotomy. By William Goodell, M. D. Reprint from *Gynæcological Transactions*, vol. I. Pp. 18.

Medicine, the Present and Future. An Address by J. W. Compton, M. D., Professor of Materia Medica &c., in Evansville Medical College. Reprint from *St. Louis Medical and Surgical Journal.* Pp. 12.

Subsulphate of Iron as an Antiseptic in Surgery of the Pelvis. By H. P. C. Wilson, M. D., Baltimore. Reprint from *Gynæcological Transactions*, vol. I. Pp. 11.

Editorial.

The Yellow Fever Epidemic in some of our far Southern cities has created a panic throughout the entire Southern country—to such an extent, indeed, we regret to say that some healthy towns have even refused a home for healthy refugees. Such an act is wrong—driving back home to sure destruction those who rightly look for friendly shelter in safe retreats. The *non-contagiousness* of yellow fever is now universally conceded. Its prevention consists in removing fever-nests in the form of filth, garbage, stagnant water, rank vegetation, etc., from the streets, alleys, houses, vacant lots, etc. When the South learns the lesson that competent and active boards of health, with absolute police control in times of danger, can keep towns perfectly cleanly, we predict that yellow fever will no longer be the annual scourge that it has been. But we have no board of health in the South vested with the proper authority or with the pecuniary means to carry into execution its wishes. Boards of health are constantly on the "compromise platform." We understand from visitors and refugees that in not a single one of the Southern cities or towns principally affected was there a proper sanitary condition. Drainage has long been imperfect; the garbage wagon was not in the daily habit of going from door to door to remove the "slops" and refuse of family cookings, &c., which, in places, have accumulated into filth beds; the sewerage is altogether imperfect, &c. We are simply pleading for the unaffected refugees—let them come away from affected places

as rapidly as possible to towns that are cleanly—better to healthy country homes.

When the epidemic has begun, every one who possibly can be got away from yellow fever stricken towns, should be invited to leave or sent away, so as to leave no fuel to keep up the disease. We are strongly opposed even to ministers remaining in such places. They can do no good at such a time, but may add materially to the labors of the already overworked physician. The regimental chaplain has no business on the line of battle in the heat of fight.

Seeing the statement in some of the papers that the treatment adopted in some places has no effect, why do not the physicians adopt the rational plan of treatment laid down by Dr. Greensville Dowell, of Galveston, Texas, in his work on *Yellow Fever*, published by Dr. D. G. Brinton, Philadelphia, $2.00? He has used the plan of treatment successfully in several epidemics. It is full time, with all the clinical advantages annually afforded our Southern practitioners, that some advance in the therapeutics of the disease was being made. But instead of this, after every epidemic year, a discussion springs up as to how the disease began. Let us hereafter discuss how to *cure* the disease when it occurs.

The Ninth Annual Session of the Medical Society of Virginia will convene in the city of Richmond at 7½ o'clock, Tuesday night, October 22d, 1878. The Committee of Arrangements on the part of the local fraternity is now organizing; and, with Dr. J. Grattan Cabell as chairman of that committee, we may safely promise that nothing in the power of the committee will be left undone to add to the pleasure and comfort of visitors. Reduced rates at the hotel will, no doubt, be secured; and if any special terms can be made with the various lines of travel, they will be announced in the circular of the Executive Committee to be issued during the latter part of this month. We are happy to learn that there are many inducements to make the forthcoming session of more importance than any of its predecessors. Among those under promise of being with us during the session, and of presenting papers, are Honorary Fellow, Dr. J. Marion Sims, Dr. Lewis A. Sayre, of New York; Dr. Robert Battey, of Rome, Ga.; Dr. George T. Harrison, of the Woman's Hospital of the State of New York, etc.

It is earnestly requested that every member of the Society will at once start actively to work upon his friends, not members of the Society, and persuade them at once to send their

applications for Fellowship to the Recording Secretary, Dr. Landon B. Edwards, Richmond, Va. Thus far, the Society has prospered greatly under the presidency of Dr. John Herbert Claiborne, of Petersburg.

Quinine to Prevent Surgical Shock—Correction.—We take great pleasure in publishing at once the following letter from Dr. E. T. Easley—well known to the profession of the country, and especially favorably known to our readers. We regret exceedingly that we overlooked, while making the note in our last issue, the suggestion published in our own journal. We had an idea at the time that we had before seen the suggestion; but not finding it in the more recent text-books, we thought possibly we were mistaken:

LITTLE ROCK, ARK., August 23, 1878.

Dear Doctor,—I have read your editorial note in the last *Monthly* on "Quinine to Prevent Shock." If you will turn to the *Monthly* for July, 1876, p. 242, and for October, 1877, p. 495, you will find that I have some claims to priority in the use of this drug to limit shock. It has been my uniform practice, as is known to my associates for several years, and I have no doubt whatever of its very great value. I administer quinine just before and after every major operation, and in every case of tedious, difficult or instrumental labor. No one, not even yourself, can think more highly of the talents and skill of Dr. McGuire than I do, and I am extremely gratified that he has independently reached my conclusions. It happens that I am now engaged in the preparation of a somewhat elaborate paper entitled a "Study of Shock," and I shall take occasion, under the head of treatment, to discuss this point more fully than has heretofore been done.

Very truly yours, E. T. EASLEY, M. D.

The Superintendency of the Eastern [Va.] Lunatic Asylum. Rumors have reached our ears that at the approaching annual meeting of the Board of Visitors, efforts may be made to displace the worthy, efficient and popular medical superintendent, Dr. Harvey Black. Such a rumor, if it has the slightest foundation, is discreditable to the Board and damaging to the Institution. Were the election of the officer left to the medical practitioners of the State, who should have at least a controlling voice in such matters, Dr. Black would be re-elected by acclamation. Tricksters in politics, bigots in religion, and fools generally should have no part in the management of such an Institution where so much is in-

volved that concerns humanity in its most tender and delicate relations to so many hearts and homes in our old Commonwealth. If the rumor has foundation, we are happy in the belief that such epithets as have been used apply only to a *very vulgar fraction* of the honored Board. We do not believe that the move meets with the sympathy or countenance of any medical *practitioner* who knows the wants of the insane, or the wishes of the people. Such positions should not be bestowed upon inexperienced and incompetent men, merely to give them bread or to gratify a feeling of favoritism. Skill, virtue, efficiency and attention to business are the elements required of the medical superintendent of an insane asylum. These and other excellencies we find admirably blended in both Dr. Black and his accomplished assistant, Dr. John Clopton.

National Quarantine Report.—*Office Surgeon General U. S. M. H. S.*, Washington, August 24, 1878. Abstract of sanitary reports received during past week under the National Quarantine Act.

New Orleans.—During the week ended yesterday noon there were 771 cases of *yellow fever* and 295 deaths, making in all 1,673 cases and 534 deaths. During the twenty-four hours to noon yesterday there were 123 new cases and 40 deaths.

Vicksburg.—At least 400 cases *yellow fever* from date of commencement, August 12, to yesterday evening, and 69 deaths; 20 deaths during last twenty-four hours. Dr. Booth, in charge of the Marine Hospital Service at that port, telegraphs: "I am sick; impossible to procure accurate data."

Memphis.—144 cases of *yellow fever* and 53 deaths during six days to Friday evening.

Canton, Miss.—First case of *yellow fever* occurred at Canton on August 1st. To yesterday evening there were 18 cases and 8 deaths.

Port Gibson, Miss.—First case *yellow fever*, originating in Port Gibson, occurred August 3d, resulting in death August 8th. The disease began to spread August 14th. 118 cases and 9 deaths to yesterday morning.

Cincinnati.—To yesterday evening no more cases *yellow fever* had developed at Cincinnati since the two mentioned in the last report. The engineer of the steamer "Golden Rule" was admitted to hospital the 22d instant with *yellow fever*, and also one other case, probable yellow fever, from Memphis.

Morgan City, La.—One case of *yellow fever* August 21st, patient from New Orleans.

Ocean Springs, Miss.—Three cases *yellow fever* and one death—all imported.

St. Louis.—Four refugees died of *yellow fever* at St. Louis during past week.

Louisville.—Four river-boatmen suffering from *yellow fever* are under treatment in an improvised hospital on the Marine Hospital grounds, admitted from steamers "John Porter," "Sunflower Belle," and "Golden Crown," on the 17th and 18th instants.

Mobile.—The case reported as *yellow fever* August 16th is now officially announced as undoubtedly a mistake. Dispatches to 23d inst. report good health.

Key West.—No *yellow fever* for three weeks to yesterday evening.

Grenada, Miss.—So many of remaining population stricken with the *fever* that definite information of number of cases and deaths could not be obtained.

Havana.—Ninety deaths from *yellow fever* and six of small-pox, week ended August 17th.

Matanzas.—Decreased cases *yellow fever.* Only five American vessels in port August 16th, and all of them have either had or were having cases of *yellow fever* on board.

Cardenas and Sagua la Grande, Cuba.—No *yellow fever.* Advices to 16th inst.

Bombay.—33 deaths from *cholera* and 15 from *small-pox*, week ended July 2d.

Calcutta.—19 deaths from *cholera* and 36 from *small-pox*, week ended June 22.

Reports from other places indicate good health.

JOHN M. WOODWORTH,
Surgeon General U. S. Marine Hospital Service.

The Southern Clinic is the title of a 32-page monthly journal, devoted to the interests of medicine and surgery, which will be commenced in this city during October, 1878. Drs. C. A. Bryce and J. R. Wheat are the editors and proprietors. Terms *per annum*, in advance, $1.50. The prospectus promises original matter from prominent medical men throughout the country, clinical lectures, hospital reports, society proceedings, etc. Special mention promised of all new remedies and instruments. Original articles and medical news are solicited from every quarter. We are glad to know the editors are encouraged in their undertaking, and we wish them abundant success.

Obituary Notices.—We respectfully request contributors under this head to send in their notices, with resolutions, etc., of Societies, at as early dates as practicable, so as to allow us to publish in one issue all that is to be said of the deceased. This is a delicate matter to refer to, but we are sure our friends will not misunderstand our motives. Even religious papers charge for obituary notices when the total amount exceeds so many lines. We offer no such barriers to doing honor to the dead; but we must suggest that our space is limited, and hence request that obituary notices be as brief as possible.

Success of Medical Students.—According to a statement in a recent number of the *Michigan Medical News*, taken from some *Exchange*, Sir James Paget has shown that, out of 1,000 medical students, 23 had achieved distinguished success; 69 what might be called considerable success; and 507, fair success. This, he says, is a larger proportion of success than any other profession can boast of.

The American Medical Review and Index.—The first number (July) is just received. It notices some books, and then gives the tables of contents of American journals for the preceding month—good for reference. It also has a few selections and an introductory. Dr. James I. Hale, Arma, Ill., $1 a year.

Messrs. Parke, Davis & Co., of Detroit, Mich., make a specialty of "New Remedies." Their advertisement gives but a partial view of their line of goods. By the way, it will well repay any physician to send this firm 25 cents for annual subscription to their quarterly journal, *New Remedies*, edited by George S. Davis and C. Henri Leonard, M. A., M. D., Detroit, Mich. This journal contains a great deal of clinical information about "new remedies" nowhere else to be obtained.

The Obstetric Gazette, Dr. Edward B. Stevens, editor, Cincinnati, 48 pages monthly, $3 a year, is a first-rate journal. Numbers 1 and 2 have been closely and profitably examined.

Dr. J. L. Powell resigned his position as Assistant Surgeon in the United States Army, August 1st, to accept the position of Resident Physician in the Baltimore Infirmary. If we are not mistaken in the person, Dr. Powell hails from Richmond.

Dr. F. B. Watkins, formerly of this city, has just removed to Rochester, N. Y., where he will enter upon the practice of his specialty—gynæcology. His practice, while in this city, included the treatment of patients from almost every Southern and Western State. He leaves a host of friends behind him, whose best wishes and commendations attend him in his new home. We are glad to hear that his success in Rochester is already assured.

Dr. C. N. Fowler's Pessaries, so highly commended by Dr. J. Marion Sims at the meeting of Medical Society of Virginia in 1875 and since, is undoubtedly a most excellent invention. The recent improvement of a "bow attachment," as figured on the advertisement page, is a great improvement. The pessary is of special use in cases of anteversion and even anteflexion. Its proper adjustment will frequently relieve the necessity of the now too popular operation of posterior section of the cervix uteri. Except in one case of anteversion where adhesions bound the uterus down, we have invariably used this pessary with relief to the patient.

Obituary Record.

Dr. William W. Maclin, Resident Physician at the "Retreat for the Sick" in this city, died at the "Retreat" on the morning of August 14th, after a lingering attack of typhoid fever. His remains were carried to his home in Greenville county, Va., for interment. He graduated in medicine at the Medical College of Virginia two years ago, and was a physician of much promise. So faithfully did he perform every duty under his responsible trust while at the "Retreat," that the success of the institution is greatly attributable to him. He worked hard, was a constant student, was a most watchful and efficient medical attendant, and leaves a memory that all who knew him will long cherish.

Dr. D. W. Booth, of Vicksburg, Miss., died of yellow fever about August 20th. He was a prominent physician, and had been Vice-President of the Mississippi State Medical Association, as also on another occasion the orator for the Association.

Prof. Karl Rokitansky, the world-famed pathological anatomist, is dead—according to a recent cablegram.

In Memoriam—Dr. Crawford W. Long.—Although we noticed the death of this illustrious physician in our August number, the nature of the accompanying preamble and resolutions, and our high esteem of the worthy, compel us to give place to the accompanying paper:

"At a called meeting of the physicians of Athens, held July 6th, 1878, the following preamble and resolutions were unanimously adopted, to wit:

Dr. C. W. Long was born in Danielsville, Madison co., Ga., on the 1st Nov., 1815. He graduated at Franklin College University of Georgia in 1835. He studied medicine and graduated at the Medical Department of the University of Pennsylvania in 1839, and died in Athens, Georgia, June 16th, 1878—having been for nearly forty years engaged in the practice of medicine.

Dr. Long was an honor to the profession, regarding it as a medium through which to make his life a blessing to the world. He was a high minded christian gentleman, always just and liberal toward his professional brethren, holding sacred their reputation, as his own, by strictly observing the highest code of medical ethics in all his association with them. He was never heard to make reflections or criticisms detrimental to any with whom he was called in consultation. As such, all his neighboring practitioners held him in their highest esteem and confidence, and almost invariably Dr. Long was called on to attend the sick chamber of physicians and their families. Truly did he subordinate his desire for fortune and fame to the one great purpose of benefitting his race. His highest ambition was to do good and leave the world better by his labors. Truth, honesty and candor marked his character while he cultivated the noble qualities of love and mercy.

Not only did he visit the homes of wealth and luxury when called to relieve affliction, but was liberal in bestowing his benefactions to the poor by carrying relief and comfort to the inmates of hovels with no hope of reward but gratitude and love—always feeling a strong conviction of heart and mind of the truth that the drying up of a single tear has more of honest fame than shedding seas of gore.

His noble sympathy for woman was always manifest in his self-sacrificing devotion for her relief and comfort in the hour of trial and suffering, as was so nobly displayed in the very last act of life.

Resolved 1. That in the death of Dr. Crawford W. Long, the medical profession, the church, society and the State have lost a faithful and devoted member, a true and good citizen.

Resolved 2. That we, his professional brethren, do most heartily endorse the claim (as so clearly proven by Dr. J. Marion Sims, of New York) of Dr. C. W. Long as the first discoverer of anæsthesia by the use of sulphuric ether.

Resolved 3. That the highest honors are due the memory of Dr. C. W. Long for his discovery, by which so much pain and suffering have been spared, and that we will ever regard him a true philanthropist and benefactor of mankind.

Resolved 4. That we earnestly request the Legislature of Georgia, at its next session, to make an appropriation for the erection of a suitable monument in honor of Dr. Crawford W. Long, as the first discoverer of anæsthesia, to be located at the University of Georgia, or at the Capital of the State. And furthermore, that we request the delegates who attend the American Medical Association from Georgia, to bring Dr. C. W. Long's claims to the discovery of anæsthesia prominently before that body, and urge that such steps be taken as will secure to the memory of one who has done so much for the profession and the alleviation of suffering, his just dues.

Resolved 5. That we do most sincerely sympathize with the stricken family in the great loss they have sustained by this sad bereavement. And that a copy of these resolutions be sent to the family of the deceased; also to the *Southern Banner*, *Southern Watchman*, *Southern Med. Record*, and the *Va. Med. Monthly*, for publication.

G. L. McCleskey, M. D., R. M. Smith, M. D., John Gerdine, M. D., J. E. Pope, M. D., Wm. King, M. D., Committee.

Wythe County Medical Society—Dr. E. M. Campbell.—Whereas it hath seemed good to the Great Disposer of all human events, in his infinite goodness and wisdom, to remove from the scenes of his earthly labors our brother and co-laborer, E. M. Campbell, M. D., late of Abingdon, Va., and since by his many ennobling traits of character and sterling virtues which contribute to adorn and embellish the life of a physician, he endeared himself not only to the community in which he resided, but to his professional brethren throughout the State; therefore be it—

Resolved I. That we, the members of the Wythe County Medical Society, of which the deceased was an honorable member, receive with unfeigned grief and heartfelt sorrow the sad intelligence of the death of our brother (or fellow member).

Resolved II. That by this sad dispensation of Providence and terrible warning, we are again called upon as a body to recognize the fact that "in the midst of life we are in death."

Resolved III. That in the death of Dr. Campbell the Wythe County Medical Society has lost one of its ablest members, the profession one of its brightest ornaments, and the community in which he lived a zealous and faithful physician.

Resolved IV. That we bow with meekness and awe under this sad affliction, knowing that He who never errs, and who doeth all things well, in the removal of our fellow member is but fulfilling a Divine purpose.

Resolved V. That we tender to the afflicted family of the deceased in this their hour of bereavement our heartfelt sympathy, and point them to Him who has said, "I will be a help unto the helpless, a friend to the widow, and a father to the fatherless."

Resolved VI. That these resolutions be spread upon the minutes of our Society, and that a copy be sent to the family of the deceased, and that the Wytheville and Abingdon papers and the *Medical Monthly* be requested to publish the same.

VIRGINIA
MEDICAL MONTHLY.

VOLUME V—No. 7. WHOLE NUMBER, 55

RICHMOND, OCTOBER, 1878.

Original Communications.

ART. I.—**The Etiology of Typhoid Fever.** By WILLIAM H. BRAMBLETT, M. D., Newbern, Va.

In the May (1877) number of the *Medical Monthly*, I reported seventeen cases of typhoid fever, with special reference to the etiology of the disease, and in the present paper I propose to continue the same subject by the relation of other additional cases. It will be taken, however, for granted that it will not be necessary for me to deal with the diagnostic symptoms with that minuteness that I did in the paper above alluded to, as there will be but one case in the series, about the diagnosis of which there can be any doubt.

The additional cases will be numbered in unbroken series, continued from my first paper, as there may possibly be an etiological connection between them and Case XVI. The paper will be concluded with some general remarks on the prevalence and behavior of the disease in this mountainous and comparatively sparsely settled country.

CASE XVIII.—William McCraw, æt. 38 years; was seen April 1st, 1877. I found him in the third week of a typhoid fever, with dry, red and parched tongue; diarrhœa; tympanitis; eruption and delirium; evening temperature, 105½° F. Under appropriate treatment, he was convalescent on the 12th day of May. Duration of the disease, about fifty days. The family consisted of the patient, his wife and five child-

ren, of ages varying from a few months to ten years, none of whom took the disease.

Case XIX.—Robert Whitaker, æt. 23 years; was seen April 4th, 1877. He reported himself as having been sick ten days, and I judged his typhoid attack to be of about that duration. His case presented unmistakable evidences of typhoid of a mild type. He was convalescent about the thirty-second day—estimating the duration of the attack at ten days before I saw him.

Case XVIII lived in a new log cabin erected near the edge of a field, with brushy woodland on the north. The surface of the ground was rolling, and admitted of easy and perfect drainage. There was no cellar under the house, and all the family lived in one room of 16 by 18 feet. The spring from which water was used was situated about fifty yards from the house, and secure from filthy contamination. To the north of the house, and only forty feet distant, was a pig-sty in a very filthy and offensive condition. The faeces, where there are small children in such families, as in this, are generally deposited promiscuously about the yard. The house in which this case occurred, is situated on the same estate, and one mile from the house in which Case XVI (*Medical Monthly*, May. 1877, page 118) was sick. This estate, known as the "Dunkard Bottom," consists of several thousand acres, situated in a bend on the west side of New river.

This man had been nowhere in the presence of the disease for eight months—since the convalescence of Case XVI—and had had no other opportunity to take the disease by direct contagion, as he rarely went more than a mile or two from home, and never out of the county. The house was situated on the bluff, half a mile from the river. Case XIX was on the same estate one mile from Case XVIII. He lived with his brother-in-law in a new log house, situated in a recent clearing, made in the forest and on a ravine, three-quarters of a mile from the river. Water was used from a pure spring that ran out from under the hill on the opposite side of the ravine, one hundred yards from the house. The family consisted of the patient, his sister, brother-in-law and two small children—none of whom

took the disease. This patient visited McC. a week or ten days before he himself was taken down, McC. being sick at the time. With this exception, he had not been in the presence of the disease for eight months—since Case XVI—whom he assisted to nurse—got well. No local cause about the premises, capable of producing the disease, could be discovered.

Case XX.—Jane Parker (colored), æt. 15 months; was taken sick April 29, 1877, with light fever and bronchial irritation. A diagnosis of bronchitis was at first made, but the fever continuing with marked evening exacerbations, and increasing from day to day, with tympanitis and diarrhœa, with parched and red tongue, induced a change of diagnosis. The case followed the usual course of typhoid in children, and terminated in convalescence on the 29th day. The child was then a mere skeleton, but regained its usual flesh in a short time. No eruption could be detected.

The family consisted of the father and mother and three other children—all older than the patient—none of whom took the disease. The mother of the child kept a cleanly house, which is situated in the town of Newbern. The water used for all purposes—that of cleansing milk vessels and dressing butter included—was that supplied, as before stated (Case XVII), to the town. The child had never been away from home out of town, and there had been no case in the village since Case XVII in August and September, 1876. The family lived in a log house, all in one room. With the exception of the crowded condition of the inmates, no adequate cause for the production of the disease could be discovered. Previous to its sickness, the child was fed mostly on milk and bread. No other case has since occurred in the town of Newbern.

Case XXI.—Gilbert Hogans (colored), æt. 15 years; was seen by me July 10, 1877. I recognized his case as unmistakably one of typhoid fever. I prescribed for the case, but from other pressing engagements could not farther attend him. He made a good recovery a few weeks afterwards. As this is one of a group of cases, most of the others not seen by myself, further comment on it, is, for the present, deferred.

Case XXII.—Fannie Clark, negress, æt. 21 years; mar-

ried, with one child three months old; saw her first on December 22d, 1877. She had been sick two weeks, and presented all the symptoms of typhoid fever, except the eruption, which could not be made out. I visited her every two or three days, as often as the condition of my practice would admit, and found the range of temperature to correspond with that of typhoid fever of a severe type. She was convalescent about the forty-sixth day.

This case occurred in the same family and same house as the one last preceding it.

Case XXIII.—Mrs. Shepherd, widow, æt. 52 years; saw her the first time December 26, 1877. She had been sick, as she stated, about two weeks, and her case presented evidences of being that far advanced in typhoid fever. Her temperature corresponded to, and indicated a grave case of that disease. All the other symptoms, including the eruption, were prominently marked. She was confined to her bed more than two months, but finally made a good recovery. She lived in the house with her son-in-law, whose case will be reported further on.

Case XXIV.—Mary Shepherd, æt. 16 years; daughter of the above, and occupying same house; was taken down to bed January 26th, 1878. A diagnosis of typhoid fever was readily made. Her case presented, in turn, all the usual symptoms, including the eruption, of that disease; in fact, the eruption was the most profuse I ever witnessed. The range of temperature indicated a case of great danger, reaching 105½° or 106° F. in the evening. The disease ran a tedious course, embracing in its range a pneumonia, hypostatic in its origin, and a petechial eruption, with hæmorrhages from the nose and gums, and the formation of an immense bed sore from sloughing of the integument over the sacrum. The fever subsided in about sixty days, but she was confined to her bed six weeks longer on account of her bed sore.

Case XXV.—Mrs. Clowers, æt. 28 years; married; daughter of Mrs. S. (Case XXIII), and mother of three children; was taken down with the usual premonitory symptoms of typhoid fever, February 21st, 1878. Early in the progress of the case, there was developed the most intense and overwhelming subsultus I ever witnessed. She could not sleep at all unless under the influence of large doses of morphia sulphate and antispasmodics. She had the characteristic dermal eruption, and presented, in turn, all the symptoms of a most hopeless case of typhoid fever. The diarrhœa was

uncontrollable; evening temperature, 106° F. during the second week, notwithstanding her treatment was vigorously antipyretic. She had passed into a comatose condition, and died March 9th—on the sixteenth day of the disease.

Four weeks before the patient was taken down with her final illness, she had, for several days, considerable fever, and miscarried at the second month; the fever then subsided, and she got up and waited on her family until she was taken down with her last illness.

Case XXVI.—Deema S., æt. 10 years; daughter of Mrs. S., and an inmate of the same house; was taken sick March 12th, 1878, with the usual symptoms of typhoid fever. The disease pursued a mild course, and convalesced at the end of the third week.

Case XXVII.—Samuel Clowers, æt. 30 years; husband to Mrs. C. (Case XXV); was taken down March 25, 1878, with the usual premonitory symptoms of typhoid fever. The dermal eruption appeared at the usual time, and was most profuse. The range of temperature indicated a severe type of the disease. During the third week he had a moderate hæmorrhage from the bowels, but went on to a perfect convalescence on the thirty-fourth day.

The house in which these five cases were all sick, was a new frame building, weather-boarded only on the outside, and consisted of two rooms, both of them about 16 by 18 feet square, and in which the family all lodged. Ventilation was very free between the laps of the boards, and I can scarcely see how they kept from freezing during some of the extremely cold nights last winter, during which some of them were sick. The house is situated on a high bluff, half a mile from the river. The land, on which the house is built, is firm and rolling, admitting of perfect drainage. There are no shade trees near the house, so that everything deposited about the yard would be readily dried up by the rays of the sun. No local cause for the disease was discoverable about the premises, save the one, if cause it may be, before alluded to—namely, that small children, such as composed the junior members of this family, will deposit their fæces about the yard. Neither of the three Clowers children—aged from two to six years—took the disease. The spring, from which this family got water for all purposes, was situated

about one hundred yards from the house. Another family, consisting of three persons, none of whom, to their knowledge, ever had typhoid fever, used water from the same spring—none of whom took the disease. These cases are the last of what will hereafter be described as a small epidemic, and for the termination of which I had deferred the preparation of this paper.

The following cases, about to be enumerated and commented upon, with the exception of the two cases already reported in this paper, were not seen by me, but were treated by another physician, and are alluded to here, because they are etiologically connected with some of the cases treated by myself; and, besides, it is my intention to allude to all the cases occurring in the county, to my knowledge, within the period embraced by this paper.

Case.—Just one month (Sept. 8, 1876,) after the convalescence of Case XVI (Marion Hawley) embraced in my first collection of cases, Mrs. Howe, æt. about 26 years, was taken down with typhoid fever, from which she recovered in six weeks. Howe lived two miles from Hawley's, up the river, both living on the same Dunkard Bottom estate already alluded to in the report of Case XVIII (McCraw).

The Howe house was situated about two hundred yards from the river, and was the first house as you ascended the ravine upon which it was situated from the river. It stood upon a bank on the south side of and considerably above the bed of the ravine. The house was a frame building, plastered or ceiled inside; well ventilated and amply capacious for the family that occupied it. The spring from which water was used, was situated fifty yards up the ravine, and on the same side that the house stands. There is certainly no contamination of water supply, or any local cause discoverable about the premises that could generate the disease. Mrs. H. recovered about the last of October. During her illness, she was waited on by Martha Hogins, colored, who developed a case of typhoid December 1st—one month after Mrs. Howe's recovery. She lived on the opposite hill, and up the ravine, about two hundred yards from the Howe house. She went home to sleep at night when her presence could be dispensed with at the Howe house; and when she

became sick went home to bed. She and her family lived in two cabins, rudely constructed of logs, and erected on the steep hillside. The cabin in which she lay sick was very open, and afforded but little protection against the weather: the floor had cracks in it that I could put my fist through, and the lower end of the building resting on blocks four feet from the ground, affording ample room for the wind to play under the house and up through the crevices in the floor. No local cause for the production of the disease could be found. Water was procured from a spring on the same side of the ravine, at the foot of the hill, and not from the Howe spring. The water was pure, and free from any sources of contamination. Martha recovered and resumed her work in one month. Her family were all, save one, taken down with the "fever," in order as their names occur, namely: Boston, Dec. 25, 1876; Jacob, Jan. 2, 1877; Humphrey, Jan. 15, and Gilbert about July 1st, whom I saw and reported as Case XXI. In September following, Millie Deems, an inmate of same family, took sick and died in November. Fannie Clark, reported as Case XXII, and a married daughter of Martha, was the last to take the disease, the date being Dec. 1st. These cases all lay sick with the disease for periods varying from one month to eight weeks, and all recovered, save the one noted above.

Sidney Holley, a negro lad of 18 years of age, and whose father lived about one mile across the country from the Hogins' house, assisted in the nursing of the boys above named, and took the disease in August, 1877. He was sick at his father's house for four weeks and recovered.

Sidney had been sick about three weeks when his sister, Iness, took the disease and recovered in three or four weeks. This house was a new log building, situated in a clearing recently made in the woods. No local cause for the disease could be detected. The spring, from which they used water, was half a mile from the house. None of the other families sick used water from the same spring.

Up the ravine, about three hundred yards, and on the same side as the Hogin's house, was another house occupied by a family, consisting of William Farmer, his wife and four child-

ren. Sometime during the summer—July, she thinks—Mrs. F. crossed the river in a boat in which was one of the Hogins boys, then complaining of being sick, and who was confined to his bed a few days afterwards with typhoid fever. This was in 1877. She was also frequently in the room, and assisted, to some extent, in the nursing of Mrs. Howe in September and October, 1876, some eight or nine months before she crossed the river in the canoe with the Hogins boy. In October, 1877, Mrs. Farmer, John, Emma and Lagree all took the disease almost simultaneously—not more than twenty-four hours intervening between the taking down of the first and last of the four. Mrs. F. and her son John recovered in six or seven weeks; Emma and Lagree both died. Grayson, the fourth child, took the disease November 10; was sick four weeks and recovered. The children's ages varied from five to sixteen years. The Farmer house was a new log cabin of two rooms, built on inclining ground, with no cellar. The ground was firm, and all garbage and other filth deposited in the surface would have been readily dried up by the sun's rays, or have been washed off by the rains. No local cause for the disease could be detected. The house was situated on the opposite side of and up the ravine about four hundred yards from the Howe house. The spring from which the family procured water for all purposes ran out from under the opposite hill. There was no source from which the water could have been contaminated with organic matter. No pig-sty, nor anything of the sort, was near the house. Farmer, who had never had the disease himself, remained unaffected throughout the prevalence of the disease in his family.

The taking down, all at once, of the Farmer family, and the spread of the disease from house to house, caused the people in the neighborhood to fear and shun it as a deadly pestilence; so that it was very difficult to procure the services of anyone to assist in nursing the sick. By holding out strong inducements, with the promise, that in the event of her taking the disease, she should have proper medical and other attention, the services of Mrs. Shepherd, whose case is reported in this paper as No. XXIII, were secured to nurse

in the Farmer family. She nursed in the family three or four weeks, was taken sick, and went home to the house of her son-in-law (Clowers) with the result already detailed in the foregoing pages.

Mrs. Howe's mother, the original owner of the Dunkard Bottom estate, lived in one hundred and fifty yards of the house in which Marion Hawley (Case XVI) was sick. Mrs. Howe frequently visited the house of her mother in June, July and August, 1876, during the sickness of Case XVI. but did not go nearer the sick man's house than one hundred yards; consequently, it can scarcely be presumed that she got the disease there. She had been nowhere else, near the disease, or in the neighborhood where it prevailed. It might be interesting to some to know that, at her mothers, she drank water from the same spring from which Marion H. got his drinking water; but, as before stated, this spring could not, by any possible means, become contaminated by reason of its remoteness from any dwelling, stable, barn, pig sty, or anything that could possibly poison the water. Martha Hogins unquestionably took the "fever" at the Howe house, and most probably, directly from Mrs. H., or her clothing, as neither her husband, her child or mother, who stayed with and nursed her all the time of her sickness, took the disease. Martha went home sick with typhoid December 1st, and unquestionably communicated the disease directly to her two sons, Boston and Jacob, who took the fever, respectively, December 25th and January 2d. Now, the period embraced between December 1st, 1876, and February, 1877—including, of course, the period of Martha's illness, was the severest weather ever known in this country. The ground was covered with snow from six to twelve inches deep all the time; the river was frozen over to the thickness of one foot; the mercury was never above the freezing point, and generally ranged from 0° to 18° F. or 20° F.; everything in the shape of fæces or garbage thrown out, remained a frozen mass for two months; and I doubt not that, in this open house, fæces or urine, in an ordinary chamber, would have frozen in two hours. Any particle of fæcial matter left on the clothing, stripped from the patients, must have frozen

in a few minutes. When everything was tightly frozen up, and there was no thawing for two months, where could typhoid germs contained in the fæcal discharges of typhoid patients, agreeably to the modern theory, have found a residence even inside this house, to develop into that maturity, without which the disease cannot, according to the modern theory, be produced? Succulent germs or animalcula could not survive such a temperature, and he who would contend that they could, would have to concede that they are not subject to the laws of nature. The same theory applies to the case of Humphrey, who fell sick late in January, and did not recover until about the first of April. Three months after the date of Humphrey's convalescence, namely, in July, Gilbert was taken down, and convalesced sometime in August. About this time Millie Deems took the disease; was sick about three months, and died; but a few days after this death, Fannie Clark, the last of the family, fell sick, and her case has been reported in the foregoing pages.

The time that elapsed between the termination of Humphrey's case and the commencement of that of Gilbert, would lead to the presumption that the contagion had found a lodgment about the premises, which was probably the case, though none could be discovered. The water had nothing to do with the production of the disease, or this long interval between these two cases would not have occurred. The other cases are sufficiently near together for those following to have contracted the disease from that one immediately preceding. I do not know what the period of incubation is, but think it is about three weeks; it may be less in some and more in others. Sidney Holley unquestionably received the contagion into his system while nursing at this house, and doubtless communicated the disease directly to his sister, as she had no other opportunity to take it; if there had been any local cause for it, other members of the family would have taken it also. While the disease was yet progressing in the Hogins family, the Farmers were all taken down with typhoid, and so nearly simultaneously as to preclude the possibility of direct contagion with the exception of Grayson, the last to take sick, which event occurred just one month from

the time the others were taken down. The origin of the disease in this family cannot be traced directly to the Hogins house, or to any member of that family—unless to the boy Gilbert, with whom Mrs. F. crossed the river, in a canoe, three months before; nor from the Howe house, as it had been eleven months since Mrs. H. recovered from the disease. I do not think it at all probable that Mrs. F. could have taken the disease from the boy in the canoe, but the conclusion is inevitable that it was contracted from one of these houses, or from some one of their inmates; most probably from some one of Hogins' family running at large with the disease before they were confined to bed, or from a wide atmospheric diffusion of germs; if not from either of these sources, its spontaneous development must be conceded. Mrs. Shepherd certainly contracted the disease at the Farmer house, and most probably by direct contagion from its inmates, and conveyed it to the Clowers family. Mary, who slept at night in the same bed in which her mother was sick, was the first to take the disease. Mrs. Clowers, who slept in another room, but was engaged in attending and nursing her mother and sister most of the time, night as well as day, was the next to fall sick. Deema, who also assisted in nursing her mother and sister, and stayed in the sick room a great deal, was the third. Clowers was the last to take the disease, and was least exposed to it until his wife was taken down; being engaged at his work in the fields all the day, and sleeping in the same room that his wife did at night. As the strongest evidence that the disease was disseminated through this family by direct personal contagion, we see those taking the disease first in order, as they were most exposed to the sick; and those last who were least exposed. The manner in which the "fever" was introduced into the Clowers family had its effect on the community; no one would visit the house; no one would go to the house to assist in nursing the sick, and they were, with the exception of one or two of the Farmer family, who had already had the disease, absolutely neglected; and to this fact I attribute the termination of this epidemic, as it seems to have ended at this house from sheer want of material. As we have already seen, the water could have

had nothing to do with it, as another family used water from the same spring, but remained unaffected to the last.

To return to Mrs. Howe's case: We must regard her attack as of spontaneous origin, or as having been contracted by visiting her mother's house. As she did not go nearer than one hundred yards to the house in which Marion H. (Case XVI) was sick, it is scarcely possible that she contracted the disease at such distance; but a negro girl, about 15 years of age, carried the water from the spring for the use of the family of Mrs. H's mother—the path to the spring leading by the door of the house in which Marion H. was sick, and the girl often stopped and went into the house. She was taken sick with febrile pneumonia about July 28th, and I at first diagnosed her attack to be one of typhoid fever, but subsequently changed my diagnosis, as she was convalescent in ten days. This girl, in addition to bringing the water, waited on the family, and was going about the house, sick, several days before I was called in to see her. In the report of Case XVI, I stated that no one took the disease from him; but upon subsequent inquiry into all the circumstances attending this girl's illness, and the visits of Mrs. H. to the house, the presumption is very strong that the girl had typhoid fever, and that Mrs. H. took the disease from her. This girl was the only one about the place who visited the house in which Marion H. was sick. If the presumption that this girl had typhoid fever, be correct, and I believe it is, then we have but little difficulty in tracing all these cases back to Case XVI, which must have been of spontaneous origin.

I have two more cases, McCraw and Whitaker, yet remaining, on this estate, to account for. McCraw was taken sick about the middle of March, 1877, and Whitaker about one week later. Neither of them had been where typhoid fever was for eight months—since Marion H. was sick—a time too long for them to have carried the disease latent in their systems. The December and January preceding had been, as before stated, of unprecedented severity, by which all typhoid germs near the surface must have been destroyed. The months of February and March were mild, and by the middle of the former, the snow had all melted off. These par-

ties, if at all, must have received the poison into their systems in the month of February, or early in March. Now, where could mature germs, capable of producing typhoid fever, have come from and entered their bodies, and developed typhoid fever in this short space of time? They both must have been of spontaneous origin, unless the pig-sty, in the case of McCraw, was the source from which the materies morbi came.

The case of Parker, in Newbern, still remains to be accounted for. Since Case XVII recovered, up to the date of the illness of this child no other case had occurred in the town; so this case must be regarded as one of spontaneous origin.

In the *Medical Monthly* for June, 1877, Dr. John C. Peters, of New York city, kindly reviewed the cases reported by me in the preceding number of that journal, and expressed the hope that I would furnish any additional reflections that a further study of these cases might suggest. Appreciating the importance of such suggestions, and especially from one so ripe in medical experience as Dr. Peters, as aids in arriving at correct conclusions, I proceed, with pleasure, to notice some facts that might have a bearing on the etiology of these cases.

The house in which Cases I, II and III (page 3, *Virginia Medical Monthly*, 1877) were sick, was constructed of boards, without ceiling or plastering, and consisted of only one room. There was no cellar under the building; the end farthest from the ravine rested only a few inches above the ground; while the other was propped up some four feet with blocks. There was no underpinning, and the space under the house was open on all sides. Such was the inclination of the surface, that all filth deposited about the house must readily have found its way into the ravine, or been dried up by the rays of the sun, as there were no trees close to the house. Nothing was visible under the building except dry dirt. If there was any obstructed drain, it was below the surface, and I think it very improbable, as the surface was clay formation. The description of this house, with the inclination of the surface of the ground, applies equally well to the house in which

Cases IX and X, and that in which XI and XII, and also to the two in which XIII and XVI occurred; and the observations above apply to the premises of all of them. The house in which Cases IV, V, &c., were sick, was built of logs, two rooms on the lower floor, resting on a sandy surface, eight or ten feet above the water level of the river. The surface inclined a little towards the river: the house had no cellar, nor was there any underpinning under its walls. Slops thrown out were readily absorbed by the sandy soil: no obstructed drainage could be found. This description, in every particular, applies to the houses in which Case XIV, and to that in which Case XV were sick. The house in which Mrs. H. (Case XVII) was sick, was the only one in the whole number that had a cellar under it, and Mrs. H. slept in the second story, one room being beneath and between her room and the cellar.

New river, that forms a bend around the Dunkard Bottom estate at this point, has no bridge, and but one ford that can be used, and that only when the river is very low—the inhabitants along its banks crossing from side to side in canoes. There is no road passing through this estate to any other place; consequently it is completely isolated—no strangers or "tramps" ever finding the way there. When Marion H. (Case XVI) was taken sick, there was not, to my knowledge, a case of fever in the county; so it could not have been carried there by any one else, but must have originated there; and, if Mrs. Howe did not contract the disease from the negro girl at her mother's, the same observation applies to her case.

In my first paper on this subject, I alluded to the geological formation of the country—the south side of the river being freestone, and the north, with the exception of some bends in the course of the river, entirely limestone; the latter, when the limestone appears near the surface, is filled with the "sink-holes," some of them containing stagnant water, before alluded to. This Dunkard Bottom estate, at least the part near the river where the fever prevailed, is, so far as its surface indications are concerned, geologically identical with the south side of the river; slates and flint-rocks predominating on the surface, though the springs are limestone. As before

stated, nine-tenths of my cases of typhoid fever occurred on the south side of the river, where the water is freestone, and where the rocks showing on the surface are slate and flints. In the water alone, the Dunkard Bottom estate differs from the south side of the river. The limestone region embraces all that part of the county north of the river (the general course of the river through this county is nearly due east), with the exception of small areas included in the bends of the river, and running back eight or ten miles to the mountains. The surface of this region is composed of a stiff clay, with but little intermixture of sand; so that water is but slowly absorbed; and when the outlet in the bottom of one of these "sink-holes" is choked up by earth, washed in by the rains, it holds water like a basin, and upon these the graziers depend very much for water to supply their stock. In this part of the county, springs are scarce, and, in some places, running water is not to be found for miles. The farms are large and the proprietors in good circumstances; but each farm has a number of tenants, composed of negroes and whites, who do the labor. The negroes are indigent and filthy, and some of the whites are in no better condition. All the wells and cisterns in the county are in this limestone region. The farm houses, where the proprietors live, are generally situated near a spring, though some of them use cistern water; not so, however, with the tenants. Their houses are usually situated on some remote part of the farm, and many of them rely, to a considerable extent, for their supplies of water, upon the ponds and creeks, where the cattle are watered. These "sink-holes," formed by the action of subterranean streams of water, washing out the earth until a cavern is formed, when the earth above gives away and falls in, leaving a basin-shaped depression, with an outlet at the bottom, which drains the water off and prevents the hole from filling with water. Some of these holes have, at this day, running streams of water under them, and with which all the surface water, running into the hole, must mingle; running on together until they appear at another place as a spring, out of which several families supply themselves with water. These sink-holes, when dry, as they must be when the outlet is unchoked,

when situated near dwellings, are used as repositories of filth, and often the family privy is situated in one of them. All the water that passes through the outlet of these holes, must mingle with a stream that appears elsewhere in the county as a spring.

What is the result of using the water from these springs, commingled with the surface drainage of thousands of acres; with very little straining out of impurities? for the outlets of these sink-holes often passes the water out in volume, though oftener by rapid filtration through a light layer of porous soil, decomposing leaves, &c. Do we have epidemics of typhoid fever among those drinking this water? Such has not been the case for the last twelve years, the period of my residence in the county. I have met with one case of typhoid fever, in a family of six persons, who drank water from one of these springs. Two or three other families used water from the same spring; yet, but the one case occurred, proving conclusively that the drinking water had nothing to do with the production of the disease in this case.

In Dublin, a small town in this county, which contains about 250 inhabitants, the drinking water is supplied, almost entirely, by the wells; there are few cisterns, but no running water within half a mile of the village. The Atlantic, Mississippi & Ohio Railroad runs through the town, and is located on the lowest ground, where there was originally a hollow or draught, by which a considerable surface, west of Dublin, was drained of its superfluous water, and the houses are erected on both sides of the railroad. The water being more accessible on the lower part of the lots, the wells were all sunk here, nearest the railroad; so that the superfluous water, falling in the town, must, to a considerable extent, percolate the earth, and find its way into these wells. The water from these wells, judging from the taste, must always contain a large amount of organic matter; yet, during the period of my residence in the county, no epidemic of typhoid has occurred in this village. There has been, now and then, a sporadic case of typhoid fever in Dublin, as also in Newbern, but they have always been single, with long intervals between. Dublin and Newbern are both embraced within the limestone region.

The principal lines of travel through the county are the McAdam road, which crosses New river several miles below the Dunkard Bottom estate, and the railroad, which crosses the river still several miles lower down—the river here being the line between this county and Montgomery. Both roads run east and west, and nearly parallel through the county, and also nearly parallel with the river. The two roads are distant from each other from two to four miles, and the McAdam road, which is south of the railroad, from two to eight miles from the river. The line of these roads, throughout the county, is embraced entirely by the limestone region—the McAdam road running through Newbern and the railroad through Dublin. Nearly all the strangers passing through the county, travel these roads. Both the McAdam and railroad are very much infested with "tramps," and nearly all the strangers coming to the county get off the train and stop at Dublin. Yet, in these most exposed parts of the county, as at Dublin, no epidemic has occurred; no wells or other source of water supply infected with typhoid virus. As the introduction of typhoid fever is often attributed to strangers, or "tramps," without knowing whether it be so or not, I deem it pertinent to make this statement.

Sporadic cases—cases that can be traced to no source of personal contact, nor to any source of water supply, or to any filth about the premises—occasionally occur in this limestone region, but, to my knowledge, they have been single, and only one case in a family. The daughter of an owner of an extensive estate in this limestone region had typhoid during the illness of the Farmer family, of which she died. She had not been where the disease was, nor was it nearer to her father's house than five miles. The hygienic surroundings were all that could be desired. She was attended, in her sickness, by the same physician that attended the Farmer family, and the other cases on that estate not attended by myself. He (the family physician) was frequently at the house, professionally, before the patient was taken sick. If these had been cases of scarlet instead of typhoid fever, what an apt illustration this would have afforded of the direful contagiousness of the former. Of these two diseases, singularly

alike in their etiological behavior, the former is not more contagious than the latter, as I may, at some future day, proceed to show; and I believe the instances in which either is conveyed through the clothing are exceedingly rare. This case was evidently of spontaneous origin.

In the freestone region of the county the water supply is excellent. The springs are small but numerous, so much so that every family, though residing only a hundred or two yards apart, has its own spring of as pure water as ever came out of the earth, and entirely removed from all sources of contamination. Why is it that this region, with its pure and abundant water, furnishes so large a per cent. of the cases of typhoid fever; and the limestone, with all the wells, all the ponds and the springs, most liable to surface contamination, where creek and pond water, to some extent, are used for drinking purposes; where ice, for summer use, is stored away from these ponds—the part of the county through which all strangers and tramps pass—furnishes so few? These facts are irreconcilable with the modern theory of the causation of typhoid fever. This remarkable coincidence tends to show that drinking water has but little, if anything, to do with the production of the disease; that it originates spontaneously, and that, generally, when it spreads, it is by personal contagion, or by a wide atmospheric diffusion of germs. It might be urged, from the fact that typhoid is so prevalent in the freestone region, that the surface was a more fitting nidus for the residence and maturation of the specific typhoid poison, but to me the reverse would be most probable.

I have paid some attention to the theory that typhoid fever is produced by ligneous decay. Most of the houses in which the cases here related occurred, were of recent construction, though there were woods with rotting logs, brush, &c., near by. At these houses the emanations from the woods could not be received in as concentrated form as if the houses themselves were in state of decay, consequently I think it would not be likely to occur in such buildings. For five months, from February 1st to July 1st, 1877, I had under observation five men, mostly under 25 years of age, and sus-

ceptible to the disease, as they had never had it, engaged in clearing off a piece of land on which all the trees had been deadened some years before, and were in various stages of decay, many of them falling to pieces of themselves when the attempt was made to move them. These men were engaged in chopping, piling and burning these logs every day, Sundays and a few bad days excepted, for three months. After all the logs that would burn had been destroyed, there still remained on the ground immense quantities of rotting and decaying wood; in this these men plowed and worked with the hoe nearly every day until the first of July. Though exposed to these emanations, in so concentrated a form (for the whole atmosphere was permeated with the odor) for so long a period, not one of them took typhoid. Surely, if such emanations were capable of producing this disease we would have had it here. Every one who has typhoid fever has been exposed to the exhalations from woody decay; now, everybody in this wooden country is exposed to these emanations, consequently everybody ought to have typhoid fever. Everybody, in civilized countries, uses chloride of sodium; every one who has typhoid fever has used it as a condiment, therefore chloride of sodium produces typhoid fever. Is not this analogy sufficiently striking to stagger the most ardent supporter of this theory?

To say typhoid fever never originates spontaneously is to make an assertion contrary to, and in the very teeth of, scientific—I might almost say—facts. We must regard the origin and continuance of typhoid fever as connected with the increase and spread of the human family over the face of the earth. Now, at a time when there was no typhoid fever, two or more factors united together, under the fixed laws of nature, produced an adequate cause, and typhoid was evolved. This event is supposed to have occurred when there was comparatively but few people in the world, when there were but few cities, and the country but thinly populated. Now, if, by a combination of factors, at this early period, one case was produced, certainly when we have a world so densely populated, and filled with immense cities and towns, these factors would be multiplied innumerably, and their approxi-

mation and union to form an adequate cause to produce typhoid fever, of daily, yea, hourly occurrence. This theory may be passed over lightly by some, but to the student of nature, seeking after truth, it may be deemed of more value than a mere hypothesis.

From the foregoing, I find no reason to change materially the conclusions arrived at in my first paper, and they may be summarized as follows:

Typhoid fever often originates spontaneously, and when it thus originates it may, or may not, extend to other individuals or families, but when it so extends, it is by direct contagion, or by a wide atmospheric diffusion of germs; and that drinking water, as a vehicle for the dissemination of the poison, may be entirely excluded, as well as the exhalations from decaying wood, as a cause of the disease.

ART. II.—**On Diet and Hygiene in Diseases of the Skin.** By L. DUNCAN BULKLEY, A. M., M. D., Physician to the Skin Department, Demilt Dispensary, New York; Attending Physician for Skin and Venereal Diseases at the New York Hospital, Out-Patient Department; etc., New York, N. Y. (Read before the New York State Medical Society, January 17, 1878.)

To those who look upon diseases of the skin as entirely separated from those of the general economy, and consider only the local lesions and their local pathology, regarding the skin as idiopathically affected, mainly, if not entirely, by external causes, the subject of diet and hygiene in these diseases has little of interest. But to those who take a broader view of cutaneous physiology and pathology, and remember that the skin is but part of the general economy, subject to changes in disease, quite similar to those affecting the rest of the body, and further, that it is in active sympathy with the general system, and also that its diseases are subject to like causes as those of any other organ, the subject of diet and hygiene in affections of the skin is one of very great and practical interest.

The question is continually asked the physician whether it makes any difference what the patient eats or drinks who is affected with this or that skin disease, and the opinions given

are often as numerous as the physicians giving them, and are not infrequently quite contradictory; many are based on theory, many on popular opinion, which has sanctioned this and decried that article of food or drink; and seldom can a good reason be given for the rules prescribed. Much the same may be said of hygiene, to which, indeed, far too little attention is paid by the physician. The object of the present paper is to endeavor to direct thought to the subject, to give the basis upon which rules may be established, and to communicate in brief what clinical experience has taught me to be of importance in regard to diet and hygiene in daily dealing with diseases of the skin. First, of diet:

Dieting, to the popular mind, represents a starvation process, which is to be continued for a longer or shorter time with the view, as it were, of starving out a disease; the definition in Webster of the verb diet, is "to eat and drink sparingly or by prescribed rules." In the present paper the word diet has a broader meaning and signifies such a regulation of the quantity and quality of the food and drink taken, its mode of preparation, and time and method of consumption, as shall conduce to the restoration and maintenance of health. Under hygiene I include all other elements of daily life affecting the health and well being of the patient—exercise, bathing, mode of life, habitation, hours of work, sleep, etc.

That articles of diet have a direct effect upon the skin for good or evil, I think there can be no doubt in the minds of those who have given any thought to the subject. All are more or less familiar with the acute erythema or urticaria resulting in some persons from the ingestion of certain forms of fish, particularly shell fish; also occasionally from strawberries, bananas, etc. Some individuals are so constituted that whenever these are partaken of, the eruption will appear, while many others are thus affected only when the articles are stale, or when they, themselves, are in a peculiarly susceptible condition. It is also well known that buckwheat calls forth a pustular eruption, an acne in some persons, and the crops of acne which follow gross indiscretions in diet, as the partaking largely of fruit cake, mince pie, sausages, cheese, nuts, etc., are of daily observation on all sides. We also re-

call the eruptions produced by the internal administration of some articles which are used as drugs, copaiba, belladonna, quinia, iodide and bromide of potassium, etc. The skin lesions occasioned by all of these are transitory affairs, very evidently dependent upon the causes mentioned, disappearing, as a rule, spontaneously when the cause ceases to act.

Now, just as these acute disorders of the skin are produced by acutely acting dietary causes, so a chronic error in diet can and often does induce or at least keep up a more chronic cutaneous lesion, which of necessity will return as often as a conjunction of causes acts with sufficient force.

The most evident and well recognized association of dietary error and a chronic lesion of the skin is in the case of scorbutus, where the hæmorrhagic tendency in the tissue of the skin and other organs is plainly due to a deficiency in the vegetable portion of the diet. Again, purpura hæmorrhagica has been ascribed, with some probability, to the excessive habitual use of water.* A but little recognized, although important alimentary cause of skin lesions is the use of alcohol, which has been shown by Renault† to be a most powerful cause of the appearance of the late cutaneous manifestations of syphilis, as well as of other affections of the skin.

Recognizing, then, that ingesta may have very definite powers in calling forth eruptions on the skin, let us consider for a moment in what manner they act. First, they may have a direct irritating action on the stomach intestines, giving rise to reflex cutaneous irritation, resulting in erythema and urticaria, as in the eruptions from shell fish, strawberries, etc., which eruptions sometimes vanish very promptly when the offending mass is rejected from the stomach, or removed by purgation; second, they may act directly upon the skin tissues, as is sometimes the case when ergoted rye is eaten, causing certain skin lesions; alcohol, also the bromides and iodides probably act in this manner; third, articles of diet may produce indigestion, giving rise to the products of imperfectly elaborated material, having direct irritating effect

*Charles Hooker, Report on the Diet of the Sick. *Transactions Amer. Med. Association*, 1853.

†Essai sur l'influence de l'alcolism, etc. Thèse. de Paris, 1874.

in its circulation through the capillaries, as in the acne following buckwheat, cheese, sweets, etc., where, if they are taken in moderate quantity, no ill result may follow, but over-indulgence, followed by acidity, gives rise to the eruptions; fourth, the error in diet may consist in the absence of certain elements of food, as in the case of scorbutus, and also in strumous eczema, in which latter, a supply of fatty matter will often alone restore the healthy condition.

Now, I believe that in many diseases of the skin the character of the diet employed acts in one or the other of these ways, and that it is not an unimportant matter as to what food and drink the patients take, but that these affections are ofttimes very much influenced for good or for evil by the quality and quantity of aliment taken, its mode of preparation, and time and method of consuming. But little is found in the works on dermatology on the subject of diet in diseases of the skin, so that I shall not attempt to quote authorities, but shall only give suggestions as they have developed themselves in my own experience and study.

Beginning, then, with eczema, that "keystone in dermatology," as it has been termed, I will first call attention to the errors in diet which I constantly observe in those suffering from it during infant life. In infants at the breast, too frequent feeding is, I believe, a frequent source of this and other diseases; especially is it common for the mother to give the child the breast every time it cries, or is restless with the itching, which generally but aggravates the already existing digestive disorder; the time of feeding should be regulated, and the breast given not oftener than every two hours. But, again, the times of feeding may be correct, and the error may be in the quality of the milk from a faulty diet in the mother. In my inquiries, I have very generally found that mothers with eczematous children at the breast are in the habit of taking daily a larger or smaller amount of ale, beer, porter, and sometimes wine, or else large amounts of tea. Dyspepsia in the mother will very often cause eczema in her nursing child, and not infrequently rich chocolate, taken to "make milk," will disagree with the mother, and by means of her indigestion, influence badly the eczema in the child. I much

prefer milk or oat meal or other gruel for this purpose. Prolonged lactation is sometimes a cause, or at least, an impediment to the cure, of eczema; when the milk is poor in the mother, it is best to supplement it with cod liver oil, which even the smallest children often take with great avidity. Some of my best results in eczema in children have been in those in whom this nutrient medicine seemed indicated.

When the child with eczema passes beyond the nourishment of the breast, great care is required that its diet be correct. I need hardly allude to the impropriety of giving young children "a little of all that's going," as I see done every day among the poor, but unless the matter of the diet is inquired into, it will frequently be found that even children at the breast are fed from the table with the food of adults; especially do they often get a little tea or coffee, of which children are universally fond; these should, of course, be interdicted to all children, and they should be encouraged to use milk freely.

It is an error to believe that a child suffering from eczema is benefited by the administration of a large amount of nitrogenous nourishment or stimulants; the processes of assimilation are commonly at fault, and an excess of highly nitrogenized food but clogs the already overburdened kidneys, whose function it is to eliminate a large share of these elements. Recently, an infant, but a few months old, was brought to my office from Jersey City, dying, as I believe, from overfeeding, especially in this line. The physician who had previously seen the case, had advised large amounts of the juice of meat, repeatedly during the day, together with brandy, etc.; the child was laboring for breath, pulse full and throbbing, without any acute disease of the lungs or other organs, nor any disease save an eczema of moderate extent. The little patient died that night before any relief could be obtained, killed, as I truly believe, by the large amounts of nitrogenous elements which had been forced into its circulation. A moderate amount of beef juice, one or two teaspoonfuls, *once* daily, to a child of one or two years of age, is all that can be properly cared for, and in the majority of these cases, cod liver oil is far more serviceable.

It is also a constant error in the diet of these little patients with eczema to overload the stomach with pure starch compounds. Most of the children whom I am called on to treat with this eruption, are receiving large amounts of corn starch, barley, etc., in place of the milk which is their proper nourishment: the diet of these I usually change to wheat preparations, especially such as contain the whole wheat, and to such articles as Nestle's food.

These errors of diet are observed, undoubtedly, in a more glaring manner among the lower classes than among the more intelligent, and I think I may safely say that in hardly a single instance among my dispensary patients, during the past year, was the diet such as the most enlightened judgment would indicate that it should be for the age of the patient. Candy, cake, etc., of the most indigestible kinds, were constantly found in childrens' hands and mouths, and even cheese was occasionally taken from them. The diet of children with eczema should always be of the most nourishing kind, properly cooked, and taken at regular times, with little if anything between meals. I know of no restrictions other than such as are indicated by ordinary, good medical judgment. But it is a mistake to suppose that these things will take care of themselves; special inquiry must be made, special rules laid down, and hurtful articles interdicted.

Coming now to eczema in older life, the disease is undoubtedly one of debility, as is all disease, one of lowered vitality, and it will often be difficult to raise the vitality to the standard of health. But here, again, mistakes are very commonly made, for it is wrong to suppose that this can be done simply by increasing the quantity of the food taken, even in the line of nutritious elements; for digestion and assimilation are constantly at fault in eczema, and these require to be remedied first; ashes and cinders need to be removed before fresh and good coal can properly undergo combustion. It is far more important, therefore, that the food taken be properly and thoroughly appropriated to the system, than that organs already but partially fulfilling their functions should be taxed with new material. Therefore, in the earlier stages of more acute and severe eczema, the total amount of food may, with

advantage, be lessened, until the liberated organs regain a normal power, assisted by proper medication. These seem very homely matters to speak of before a learned body, but I have so very frequently seen patients crowded with food, beef juice, cod liver oil and stimulants, when the tongue was coated, the urine loaded, the secretion from the bowels scanty, and the skin dry and harsh, that I cannot forbear mentioning how frequently personal attention to those matters has afforded the greatest relief to the patient's feelings, as well as to the eczema or other cutaneous ailment. I am aware of the claims so ably advocated by Dr. Weir Mitchell, in regard to very great feeding, even over-feeding, in cases of greatly depressed vitality; but to have his method successful, it needs to be followed accurately in all its details, with the massage, electricity, rest, etc., and he admits that even then, all cases are not suitable for it; and, moreover, he distinctly says that he watches the urine* for signs of improper assimilation, and he is constantly on the alert, as a most intelligent physician, for signs of dyspepsia, etc. Moreover, I do not know that this process of excessive feeding and rest has ever been successfully tried in cases of eczema, or in any skin diseases.

I do not believe it best to cut off all meat in eczema and psoriasis, as some have recommended to do; I consider that in this country, at least, a fair amount of meat, once, or at the most, twice daily, is conducive to health, and is of benefit in eczema, acne and even psoriasis; this should be well cooked, but not overdone, and fried or boiled meat should be avoided.

It will be constantly observed, that patients, with certain diseases of the skin, as eczema, psoriasis and acne, avoid fat, this is especially true of those with the strumous or gouty habit well marked, and to insure a cure of the skin lesion and subsequent freedom from it, it will be necessary to see to it that this fault in the diet is corrected; at first this is difficult to accomplish, but it can be done in almost every instance, and I have frequently seen those who exhibited a repugnance to fat meat, become educated really to crave it.

*Fat and Blood and how to make them. Philadelphia, 1877, p. 81.

These patients may be encouraged to eat butter in abundance, not melted or fried with other substances, but fresh on bread, etc.; cream is also to be employed when possible, and cod liver oil or glycerin will often be required to supply a deficiency otherwise unreached.

But in order to properly care for and assimilate this fatty food, it will often be necessary to increase the amount of oxygen inspired, and to accomplish this exercise in the open air must be insisted on. Diet and hygiene are, therefore, closely associated in the treatment of many diseases of the skin.

Perhaps the greatest error of diet, which is constantly committed by patients affected with cutaneous diseases, is in the too great use of sweet and starchy food. The appetite of many patients with skin diseases is faulty, and as there is little relish for ordinary food, the deficiency is made up by those articles which appeal more strongly to the taste; or with many there is the great fault of over-eating, especially in the line of sweet and starchy food, as obtained in desserts. Among those who are better to do, eating is so much of a social habit that the discrimination is seldom made between appetite and taste, and many continue to eat after a healthy appetite has been satisfied, and this additional sweet and starchy dessert, often in a very indigestible combination, is just so much of an extra tax upon the organs which minister to nutrition.

Therefore, as a rule, I inquire into these matters of diet, in patients with eczema and other skin diseases, and continually find the habitual use of articles which the patients themselves recognize to be injurious, but from which they have not the moral courage to abstain until so directed by the physician. Such are rich salads and side dishes, pickles, gravies, dressing of fowls, nuts, cheese, ice cream after dinner, etc.

Coffee and tea I do *not* consider harmful if taken in moderate and proper quantities, and at proper times; but this is a matter which requires attention, for some of the worst cases of eczema which I have ever been called on to treat, have been in those who consumed inordinate amounts of tea, taking it many times a day. I allow a cup of coffee and

milk in the morning, and one of tea at noon or night if desired, but not both; nor is it desirable to take the tea at night if a hearty dinner is eaten then. I never allow coffee to be drank after dinner by these patients.

In regard to the use of wines, ales, liquors, etc., I am very decided in the directions I give to patients with diseases of the skin—that is, each case is different, and should be prescribed for according to the indications present. The habitual use of any of them I consider to be prejudicial to at least nine out of ten of the cases which come under my care (which is synonymous with those affected with diseases of the skin), and I cut them off far, far oftener than I order them for those unaccustomed to their use; this is not, however, to be blindly done in every case, especially in those more or less dependent upon them, and occasionally they may serve a good service in treating skin cases, but these instances are few.

I do not, therefore, allow patients with syphilis in any of its stages to use any form of fermented or distilled liquors, believing with Renault that alcohol makes all these lesions worse, and predisposes the patient to the more severe ulcerative forms. I may here add a word or two in reference to other elements of diet and hygiene in syphilis. There is great danger, I find, of regarding syphilis simply as a series of lesions all due to the action of the specific poison, without remembering that many other elements are to be taken into consideration in each particular case. Ofttimes mercury and iodide of potassium seem to have almost no control over the lesions, or even to do harm; in many cases I find other causes, such as dietary and hygienic acting with great power, and hindering the cure. I therefore urge that very much in this paper pertains to syphilitic patients as well as to those with acne, eczema, psoriasis, etc.

I generally withhold fermented and distilled liquors also from eczema patients, preferring, if the appetite and strength require it, to stimulate with the compound tincture or extract of bark, with nux vomica or strychnine, and quinia, or the mineral acids and iron.

In acne, I very seldom, if ever, allow my patients any

spirituous or fermented drinks, and interdict especially ale, porter, sweet wines, cider, etc. One of the most obstinate cases of acne rosacea which I have ever had to manage was in the person of an elderly gentleman, who persisted, for a time, in drinking wine, mainly sherry and claret; after a while he was persuaded to desist from them, when his skin lesion yielded promptly to remedies which before were inefficacious, and his face has now remained free from eruption for a number of years. Another patient, a lady, with a very severe and disfiguring eruption of acne indurata, had been advised cod liver oil, which she took with ale three times daily, with a constant increase in the eruption; subsequently cod liver oil without the ale was well borne and the patient recovered.

The same reasons which lead me to keep these substances from acne patients cause me to endeavor to hinder patients with psoriasis from their habitual, much more from their excessive, use—namely, patients with both these affections all acknowledge that there is more or less flushing of the cutaneous surface following their use, and ofttimes a period of subsequent depression and drowsiness. Now, these are both marks of errors of digestion or assimilation, and as such should be avoided; moreover, the larger share of patients notice that an excessive use of fermented liquors is always followed by an increase in the eruption. Of this I have had some striking examples, and Renault, in the thesis before alluded to, cites a number of cases which show that alcohol causes a greater development of the disease, and more active phenomena of itching, etc. Renault shows that the physiological action of alcohol is such as to predispose, more or less, to cutaneous diseases. 1. Because it is eliminated to the skin. 2. Because a small dose produces a general nervous excitation, and a large dose depression. 3. Because of its diminishing the amount of carbonic acid exhaled and lowering the temperature; and, 4. Because of its tendency to produce fatty changes in the tissues. He gives a case of hydroa where bullæ had developed twenty times within seven years, each attack almost always succeeding alcoholic abuse.

Soup is an article of diet in very common use, and requires

consideration. Many of my patients with acne and other skin diseases say that the face is always much more flushed after taking soup, and quite a proportion of them have themselves learned to avoid it. I almost always interdict its use in acne, and frequently in other affections of the skin.

It is popularly supposed, and believed by many physicians that fish is injurious and should be restricted in skin diseases; this is founded upon the fact before alluded to, that in certain individuals some varieties of fish, especially shell-fish, call forth an eruption of erythema or urticaria. I have not found fish to be injurious in such affections as acne, eczema and psoriasis; indeed, unless there is some peculiar idiosyncrasy against fish, I constantly order it as an article of diet to take the place of meat in those to whom this restriction is required.

It would take much more time than I intend to occupy even to briefly allude to many articles of diet which have more or less effect upon certain of this class of diseases, and to give the reasons therefor, and in closing this portion of my subject I can but remind you of the principles which are to guide one in giving directions about diet.

Indigestion must be *looked for*, and in some of its forms it will be found to be very commonly present. I need hardly remind this audience that indigestion, or, more properly, imperfect digestion, embraces a much larger field of sytemic derangement than is often recognized as such, and has to do with the entire processes of assimilation and disintegration. That is, there may be none of the ordinary signs of stomach disorder, such as pain in the epigastrium, flatulence, acid eructations, etc., and yet there may be very serious failure in the process of converting food into tissue and energy, and of removing the effete products of the same. Of these I cannot now particularly speak, having recently developed the subject elsewhere very fully,* but I wish to insist that every article of food which may disturb these processes must be avoided in these diseases, and to accomplish this much care will often be required; and I wish to impress the fact that

*On the Recognition and Management of the Gouty State in Diseases of the Skin. Read before the American Medical Association, June 7, 1877. *American Practitioner*, November, 1877.—Reprint, G. P. Putnam's Sons, New York, N. Y.

these dietary errors are far more common than they are thought to be, and are far more productive of skin lesions than is commonly acknowledged.

In regard to the other side of the question, it is often of importance to add to the diet as usually taken, in certain diseases of the skin. I have already alluded to the subject of the use of fatty matter, especially the fat of roast beef and mutton, and of chops and steaks, and also to the necessity ofttimes of supplementing these with cod liver oil or glycerin in strumous and gouty subjects. Indeed it is unwise to cut off largely the carbonaceous elements, as is done when we limit the starch and sugar, without supplying its place by a sufficient quantity of the same in some more digestible form.

Some care is required in executing this order "to use fat largely" by those unaccustomed to it, because there is danger of the production of the state or group of symptoms commonly known as "bilious," as is very frequently seen in those who begin cod liver oil in too large a dose. Alkalies can often be given with much advantage to counteract this, and when I order milk for adults, as I do a great deal, I often direct a little acetate of potassa, fifteen to twenty grains, or ten to twenty drops of liquor potassæ, to be taken in each tumblerful. I regret that I have no experience which I am able to record of the use of the malt extracts in skin diseases; they are frequently prescribed in these affections, but I am unable to give any particular indications for their use, other than those suggested by a run-down condition of the patient. I have had some very good results with glycerin internally in papular and punctate acne.

There is another addition to the diet of very many patients affected with skin disease, especially ance, eczema and psoriasis, which I consider to be very important; and that is found in the truly nutritive portion of wheat which is so commonly taken out and thrown away. I allude to the use of preparations containing the whole of the wheat kernel,* and of these there is none, in my estimation, equal to

*The ordinary Graham flour does not fulfill all the requirements, because in the early siftings to remove the coarser portions of the silex coat, much of the gluten and phosphates are also taken away, adhering to the former; moreover, this is not always well borne, because the portions of unground wheat irritate the stomach and intestines.

what is known as the cold-blast attrition flour of whole wheat. In this the hard, silex coat is first removed and comes off alone, leaving all the nutritive elements which are then ground into a fine flour; this contains all the phosphates as well as all the gluten of the wheat, and is, I believe, many times as nutritious as the ordinary very fine white flour, as commonly used. The bread made from it is quite dark, but is very palatable, and every one of the many who are now using it at my direction is fond of it, especially children. I invariably place patients upon it who have any failure in the nutrition of the hair, and I believe that it has assisted me much in the treatment of these cases. I use this also with good results in all patients where any nervous phenomena exhibit themselves, and in those who are of constipated habit; sometimes it alone suffices to restore regularity of action to the bowels. I have employed it for about two years, and order it on general principles to the children under my care, because I believe that it best represents the food which nature designed should be prepared from the whole wheat kernel.*

I also encourage largely the use of crushed wheat for breakfast for the same reasons, preferring it in the main to oat meal in skin diseases. My impression is that there is some truth in the popular opinion that oat meal is rather "heating," although I cannot well define exactly what is meant by the latter term; it does, however, act unfavorably in some cases of acne and eczema. Both cracked wheat and oat meal should be much more thorougly boiled than is commonly done; it is well to boil them over night, and again in the morning.

Time and space forbid my entering at all fully into the other elements of diet, as indicated in my definition of it—namely, the regulation of the quantity of food and drink taken, its mode of preparation, and time, and method of consumption;

*The flour that I have reference to is quite different from the ordinary Graham flour; the agents for it in New York are the Health Food Company, 76 Fourth Avenue. I give the name and address because it is essential, I think, to get just the right article, and, as far as I can learn, after considerable inquiry, there is no other preparation which answers the same end, for the reasons stated in the paper. It is not an advertised nostrum, but simply wheat ground in a particular manner; nothing more, nothing less.

but I would like to throw out a few practical thoughts which are matters of every day consideration in my office. I have already spoken somewhat of the quantity; this must neither be too small nor too large; a *healthy* appetite and *good* judgment are the best guides, but unfortunately every one does not possess one or both of these, and the physician should endeavor to supply the lack; over-eating I consider the fault in by far the larger proportion of cases.

A large field of thought is open in regard to the mode of preparation of foods, in regard to which the greatest ignorance exists, but which we cannot at all enter upon at present; suffice to say, patients with skin lesions should not take their food fried, nor too well cooked in any way; high seasoning I decidedly object to for these patients.

The time of taking food is by no means an unimportant matter, and regularity of meals is very necessary both to the restoration to health of diseased tissues, and to the maintenance of the same, and yet I continually find very grave errors committed by very intelligent persons; this is a matter I very frequently speak of.

It may seem trivial to speak of the method of consuming food, but unless this is attended to by the physician a very common error may be persisted in, which may baffle many good efforts in other directions. I allude to the very common American habit of eating fast, and of imperfectly masticating the food. The process of digestion undoubtedly commences in the mouth, and an imperfect performance of the work allotted to this portion of the digestive tract must throw extra work on other portions, and results in imperfect digestion. I continually am obliged to caution skin patients in regard to this.

Many inadvertently take large amounts of water or other liquid with their meals. Very cold water is especially bad, but any fluid beyond a very moderate amount certainly dilutes the gastric juice, and impairs digestion. Nor is it well to take the tumblerful, as many do, just at the close of the meal; the result is the same; water or fluid taken too soon afterwards must and does also act prejudicially. A common direction of mine is to diminish the quantity of fluid taken

at the meal by one-half—one cup of tea where too were taken; half a goblet of water where one was drunk.

Some of these suggestions may seem useless to my hearers, but I am assured of the truth and importance of all the matters I have mentioned, from a not inconsiderable practice among those who are habitually suffering from some of the elements of imperfect digestion and the skin diseases dependent thereon, all of which oftimes result from dietary errors as understood in my definition.

There are, of course, other causes of these difficulties, which belong rather to the subject of hygiene, such as mental strain, worry, etc.; but those I have mentioned are so easily remedied that I cannot but endeavor to impress upon you the importance of attending to them, believing that if it is habitually done, it will be much easier to remove many diseases of the skin. It must be remembered that in a chronic state we must use chronic remedies, and also that the diet is a chronic factor for good or for evil long after the patient has ceased to use our external or internal remedies.

I have already consumed so much of your time that I shall have to be very brief in regard to the subject of hygiene in cutaneous maladies; and the most I can do on the present occasion is to impress the fact that every element which can conduce to the general health and vigor of the patient should be considered in connection with those afflicted with diseases of the skin.

First in importance I place exercise. And explicit instructions should be given to every one in regard to this; for the judgment of few patients will lead them to employ this agent properly or sufficiently. No spasmodic or irregular exercise will suffice; but steady, daily action of the whole frame can and certainly does conduce to the restoration to health of diseased skin.

Bathing ranks next in importance, and the daily cold or tepid sponge bath on rising, with good, earnest friction thereafter, is a common prescription of mine to those who can bear it. If this cannot be done, mildly alkaline warm baths twice or thrice weekly, at night, conduce much to the perfect

interchange of tissue elements, and often help a purely localized skin disease amazingly.

Proper rest and sleep should never be neglected by the physician; for some patients are always in such a tearing hurry that their systems never recover from the shock of one day before the next is upon them; mental anxiety and nervous over-strain are undoubtedly the causes of the beginning and continuance of many skin diseases. Ventilation and sunlight are indispensable agents to recovery, and should not escape the careful physician's attention.

Finally, no item which can conduce to the physical welfare of a patient is beneath the notice of the medical man who would successfully treat diseases of the skin. Diet and hygiene represent a large share of the elements of human existence, and are often, or, rather, always, more potent for health or ill-health than what are more commonly known of medicines; and what is true of the general economy is eminently true in regard to one of the most important emunctories of the body, namely, the skin.

ART. III.—**Permeability of the Entire Alimentary Canal by Enema, with some of its Surgical Applications.** Synopsis of a paper presented to the Surgical Section of the American Medical Association at Buffalo, June, 1878. By ROBERT BATTEY, M. D., Rome, Ga., Fellow American Gynæcological Society, etc.

On the 9th March, 1873, the writer saw in consultation Mrs. S., aged 23, married, mother of one child. To establish a differential diagnosis in the case between intestinal obstruction and gastric carcinoma, a very large distensive enema of warm water and turpentine soap was administered —pressure being made upon the anus by means of a napkin surrounding the enema tube, firmly held by the hands. When eighteen or twenty pints of water had passed in, a copious vomiting of liquid occurred, followed by the remark from the patient, "*Doctor, I taste your soap in my mouth!*" and she repeatedly protested that she could not be mistaken.

The writer began at once to study anew the anatomy of the intestinal tube, and to reflect upon the practicability of a

fluid being forced throughout its entire extent, in the living body, with safety to the patient. Not long after this, viz., on the 4th of October, 1873, a second and similar observation was made. Mr. H., a farmer, aged 60, was the subject of double inguinal hernia. He had, not unfrequently, strangulation, but reduced the hernia himself without the aid of a physician. On the 30th September, he made such a reduction upon the right side, but failed to find the accustomed relief, and called his physician, Dr. W. L. Selman, of Chattooga county, Ga., who summoned the writer on the fifth day to relieve the internal strangulation by gastrotomy. When seen on the morning of the 4th of October his countenance bore an expression of deep distress and anxiety; he was still suffering paroxysms of great pain, in spite of the opiates given, which had, however, afforded him some snatches of sleep at night. A firm mass was to be felt through the abdominal wall, situated just above the right inguinal ring, and the same mass could be touched by the index finger invaginating the scrotum through the inguinal canal. There was great tenderness complained of when the strangulated mass was touched. The vomiting and obstipation still persisted. The patient was chloroformed to complete relaxation, and simple tepid water injected into the rectum by means of an ordinary rubber-bulb syringe, the anus being firmly compressed with a towel around the tube, the operation being conducted slowly, with short intervals of rest to allow of gradual progress upwards of the liquids. In due time, copious vomitings of discolored fluid occurred, with fæcal odor, and in such quantities as to make it sufficiently evident that it had been forced into the stomach from below. So great was the abdominal distension, the water spouted from the anus, when pressure was removed, in a bold stream, like a jet from a fountain, to a distance quite two feet from the nates, and continued thus to escape until a gallon, perhaps, had been discharged before the power of the sphincter muscles became adequate for its control. The quantity of water used was estimated at *twenty-four pints.* On recovering from the anæsthesia he passed the enema in several successive instalments, with intervals of an hour or

more of rest, accompanied by a satisfactory amount of fæces. The relief was prompt and complete, the vomiting ceased at once, a purgative was given, and nothing further required.

In January, 1874, the writer, assisted by Prof. J. T. Johnson, of the Atlanta Medical College, experimented upon the cadaver, in order that the progress upwards of the fluid might be watched by the eye. The room was cold, temperature below forty of Fahrenheit; the abdominal viscera and the water employed for injection so cold as to benumb the hands. Notwithstanding these obvious disadvantages, the liquid passed readily along the entire length of the colon, and found no great obstacle at the ileo-cæcal valve to its onward progress. Upon reaching the upper portions of the smaller intestine, greater difficulty was encountered, on account of the collapsed and matted condition of the cold, cadaveric mass. Movement of the convolutions, however, with the hand, permitted the water still to pass onwards, until it finally reached the stomach, and even flowed freely out of the mouth upon the table.

In May, 1874, these observations were reported to the Atlanta Academy of Medicine, in a paper published in the June number of the *Atlanta Medical and Surgical Journal*, extracts from which I shall ask leave to use freely in the preparation of this paper.

In the August, 1875, number of the same journal, Dr. A. B. Copeland, of Valley Plains, Ga., reports a case, observed by himself and Dr. T. S. Mitchell, of Hamilton, Ga.—a case of "Intestinal Obstruction Removed by Position, Distensive Enema and Gas," in which he remarks: "To satisfy myself of the full permeability of the canal, I returned the following day, and, injecting a half pint of castor oil into the rectum, followed it with a large injection of warm water until vomiting occurred. The patient distinctly tasted the castor oil in the vomited fluid, and the oil globules were abundantly floating upon the ejected liquid."

In the *Nashville Journal of Medicine and Surgery*, Dr. H. M. Hearn publishes the following:

On the 30th of July, 1874, I was called in great haste to Mrs. E. H., aged 47, who had great nausea and incessant

retching, vomiting a glairy mucus, and also everything that was taken into the stomach; hence, we were forced to resort to the use of injection, both hypodermical and rectal. There being considerable constipation, it was evidently necessary to open the bowels as speedily as possible. For this purpose, we used the ordinary injection, castor oil forming a part, and which was vomited up within forty minutes afterwards. The attention of Dr. Fletcher (who was present at the consultation) was immediately called to the appearance of the ejected matter in the night-glass, when he carefully separated the oil from the mucus, and bottled near a tablespoonful, which he took to his office and thoroughly examined. It was, beyond all doubt, the oil which had been injected, as she had taken no oil into the stomach."

Dr. A. P. Richardson, of Cherokee county, Ala., states to the writer, verbally, that he has employed very large enemata of warm water and castor oil in two cases, in one of which the enema and oil were vomited freely from the stomach. He satisfied himself fully that castor oil in quantity existed in the vomited material, and that it could only have been derived from the enema which he had employed.

It is scarcely necessary to cite authorities to show that the well-accepted opinion of the profession is, that there are insuperable obstacles imposed in the alimentary tube which effectually bar the upward passage of an enema beyond the ileo-cæcal valve. When so erudite an author as Dr. Austin Flint, Sr., in the last edition of his work upon "Practice of Medicine," assumes this opinion to be incontrovertible, and asserts, "experiments and clinical observations show that the ileo-cæcal valve will sustain an amount of pressure sufficient to cause rupture of the intestinal walls," it may well be inferred that such is the settled conviction of the profession in general.

The writer next considers the obstacles to the permeability of the canal, and especially the ileo-cæcal valve, and endeavors to show by its anatomical structure that it is not insurmountable.

"The lower end of the ileum terminates at the inner and back part of the large intestine, opposite the junction of the cæcum with the colon. At this point, the mucous membrane forms two valvular folds, which project into the large intes-

tine, and are separated from each other by a narrow, elongated aperture. This is the ileo-cæcal valve. * * * Each segment of the valve is formed of a reduplication of the mucous membrane, and of the circular muscular fibres of the intestine, the longitudinal fibres and peritoneum being continued uninterruptedly across from one intestine to the other. When these are divided or removed, the ileum may be drawn outwards, and all traces of the valve will be lost, the ileum appearing to open into the large intestine by a funnel-shaped orifice of large size. * * * When the cæcum is distended, the margins of the opening are approximated, so as to prevent any reflux into the ileum."

Such is the dictum of Gray in his work upon "Human Anatomy," and the accuracy of his description will not be questioned; but a careful examination of the mechanical principles involved, will show that he does not go quite far enough for our present purpose. When the colon is moderately distended, the mechanical force is exerted chiefly in a lateral direction—*i. e.*, in the direction of the circumference of the tube, and its effect is to elongate the folds which form the valve, to approximate closely their margins, to close the valve, and hence to offer an effective barrier to the onward course of the liquid. *But*, when the force is still further increased, until the point of complete circular dilatation has been reached, another mechanical effect begins to show itself—viz., elongation of the intestine by a downward movement of the cæcum before the advancing column of liquid. In this elongation of the tube, the force exerted upon the ileo-cæcal folds is in a direction longitudinal with the intestine, and hence transverse to the direction of the folds, by which the latter are separated from each other, and the ileo-cæcal valve is opened for the onward passage of the liquids into the ileum, and the obstacle is thus effectually overcome. In other words, the elongation of the intestine stretches the longitudinal muscular fibres, and produces, in a degree, the effect described by Gray as following upon the division of those fibres—namely, the funnel-shaped opening. That this elongation of the large intestine, when greatly distended by a liquid, does actually occur in practice, was distinctly seen in the experiment upon the cadaver in the Atlanta Medical

College. It was seen by Dr. B. C. Smith, of Cold Water, Ga., who remarks in the *Atlanta Medical and Surgical Journal*, 1875, page 599: "As an illustration of the manner in which distension of the bowel relieves intussusception, I will mention the fact that a circle of irritated hæmorrhoidal tumors in a state of protrusion and congestion, will be readily drawn in by distending the colon with water."

This discovery, made by the writer as before stated, upon the 3d of March, 1873, was certainly new to him, and he believes was equally new to the profession when he brought it before the Atlanta Academy of Medicine in May, 1874, and published it to the world in the *Atlanta Medical and Surgical Journal* in June of that year. He, therefore, feels warranted in claiming it as his original discovery, until some other member of the profession shall manifest a disposition to contest the claim and possess himself of any credit which may be attached to it. It is true that the relief of intestinal obstructions by intestinal distension in various ways has long been known and practised successfully; and the present writer, although repeatedly endeavoring to impress upon others his own appreciation of its efficiency, safety and great usefulness, has not, at any time, assumed to claim it as his discovery; and now claims nothing but the new fact of the entire permeability of the canal by enema.

The writer notices briefly the method of intestinal distension, devised and practised by Dr. A. S. Baldwin, of Jacksonville, Fla., and also the labors of several of his followers in the same field, and he then goes on to show by his own writings the successive stages of advance in his knowledge of the capacity of the canal, up to the final discovery of its entire permeability. He then considers some of the surgical applications of the method by intestinal distension, and uses the following remarks in reference to the long tube as an aid to injection.

"It seems, indeed, astounding that the profession should so long hold to the fallacious idea that liquids, and especially so bland and unirritating a liquid as tepid water, can be carried to a higher point in the intestinal canal by means of the elastic tube passed into the colon, to any extent, however high up. It would appear that a little reflection would make

it clear; 1st. That a liquid, perfectly mobile in all its parts, pressing equally in every direction, tending to insinuate itself into every crevice, readily entering even the minute pores of wood, and, under suitable mechanical appliances, capable of exerting the stupendous, and at the same time, perfectly manageable powers of the hydraulic press, must insinuate itself readily anywhere in the alimentary canal that the elastic tube could possibly pass, and, indeed, far beyond the attainable reach of that instrument. 2d. That this penetration can be effected with superior safety by a liquid endowed with unerring power of instinctive selection, to search out the pervious point of a tortuous and convoluted canal, of which power the elastic tube, directed by the most skilled hand, is wholly incapable."

Speaking of the precautions which Dr. Flint enjoins in the use of intestinal distension in intussusception, the writer remarks: "It seems, indeed, strange that so much stress should be laid upon the contingent danger of damage by over zeal in the application of so promising a remedy. It is explainable only by the inference that that learned, able and conservative author has not, as yet, in his experience, developed the power and scope, and comparative safety of the method in question." Upon this point, it is certainly legitimate, nay, it is the bounden duty of the practitioner, in so desperate a strait, to well and truly weigh the magnitude of the issue at stake, the extreme peril of his patient upon the one hand, with the dangers which may attend upon his ministrations, and the hopefulness of their success upon the other hand, and, by virtue of his authority and enlightened judgment, to declare absolutely what is to be done in the circumstances before him. Surely in such a case it ought not, it cannot be demanded of him that he shall restrict himself to such measures as shall be absolutely free from dangerous consequences. It is enough that the peril of the condition under treatment shall far out-weigh any hazard which may be contingent upon the proposed remedy.

An earnest, but respectful, protest must be entered against the injunction that "the injections are not to be pushed beyond the point at which they are borne without much suffering." The statement—"they will very rarely succeed after the invaginated portion of intestine has become swollen by

congestion, and the peritoneal surfaces in contact have become adherent," must be called in question. Obedience to the injunction will most effectually rob us of a power for good in a very large class of most desperate and otherwise well nigh hopeless cases. A blind acceptance of the statement will as effectually paralyze our efforts in the crisis when valuable lives turn upon our decision.

In conclusion, the writer desires to express the sentiments of reverence and esteem in which he holds the fathers in medicine, both living and dead. While he is disposed to yield to no man precedence in doing honor to them and their distinguished labors, he would as unhesitatingly declare his utter aversion to that abject slavery to the mere prestige of authority which tends to check all progress in medicine. Every case of disease which presents itself for remedy has its own individual peculiarities, and must be considered as an integer to itself. The practitioner upon whom devolves the management of the case must decide its points under the illumination of his own mental light, even though this be but a rush-light. He who blindly follows the mere dictum of an authority, is in no true sense a *physician.*

The writer concludes his paper by considering some of the surgical applications which grow out of a knowledge of the newly established fact that the entire alimentary canal may be permeated by a bland enema, and various obstructions to the canal removed in a safe and simple manner.

ART. IV.—**Some Experiments upon the Ferments, with Reference to their Value in Surgery, etc.** By RICHARD H. LEMMON, M. D., Castle Craig, Campbell Co., Va.

The processes of fermentation and decomposition in animal tissues and fluids has of late received much attention, and deservedly; for the reason that until lately little was known concerning them, and that little badly interpreted. Even in the last edition of Prof. Miller's work on Chemistry, he explains the fermentation of milk by the catalytic action of caseine on the sugar of milk, producing lactic acid.

It was not until the classical experiments of M. Pasteur on

the processes of vinous fermentation that a key-note was given to the true appreciation of the phenomena therein involved. These, together with the researches of Tyndall, Lister, and others, clearly prove that the cause lies in the development of certain excessively minute germs, everywhere existing in our atmosphere. So small are these germs, that Dallinger failed to detect them with a power of 15,000 diameters; indeed, they can only be seen by throwing a brilliant pencil of electric light into a darkened chamber. An observer at right angles to an atmosphere thus illuminated, may see innumerable motes floating about in this atmosphere, which, examined in any other way, would appear optically pure. Prof. Tyndall has demonstrated their presence in air procured four miles above the surface of the earth.

Animal fluids, vegetable and animal infusions, &c., which have been exposed to the air for a few seconds or less, experimenters have shown, become fertilized by these germs, and in a short time, varying according to differing meteorological conditions, develop swarms of bacteria and other forms of infusorial life. The effect of these on the animal tissue or fluid is to produce the changes known as fermentation and decomposition.

Experimenters (Burdon-Sanderson, Roberts, Lister and others) have succeeded in keeping, perfectly pure and fresh, milk, blood, urine, lymph and all other fluids met with in the body, by the simple expedient of sealing up these liquids, which have not previously been exposed to the air, in an aseptic atmosphere (*i. e.*, in an atmosphere in which all germs have been destroyed either by means of antiseptics, or the application of heat up to 300° F.) Nor is it essential that the fluid should be sealed up—Prof. Lister having used a plug of cotton wool in the mouth of the tube which allowed the passage of air, the germs of which were caught and held in the meshes of the cotton-wool stopper.

In testing these experiments, the writer has found considerable difficulty in placing the fluid in the tube containing aseptic air without allowing contact with the ordinary atmosphere, which results in the failure of the experiment. For the benefit of those who wish to test the truth of the pre-

ceding observations, I would recommend the following method: Supposing the liquid to be experimented on to be blood; a small animal is taken, tied, and laid upon the table. The rack aspirator of Dieulafoy is thoroughly cleansed by the passage through it of a strong solution of carbolic acid. Then take a small test tube wash, and stop its mouth with a thick plug of cotton-wool; put in a sand bath, or small stove, and raise the temperature between three and four hundred degrees, Fah. Then make a vacuum in the aspirator, and fit a needle in the extremity of each of the flexible tubes which communicate with the vacuum and which are furnished with stop-cocks. Everything being in readiness, stick one of the needles through the plug of cotton-wool into the test tube, and plunge the opposite one into one of the larger arteries of the animal. The stop-cock of the last needle is turned so as to allow the entrance of blood into the chamber of the aspirator, and as soon as a sufficient quantity shall have passed, the supply is cut off. Then turn the cock communicating with the test tube and force the blood therein.

Animal fluids, prepared in this way, will keep perfectly fresh and unchanged for months. The above facts, I think, will soon be generally accepted by all who care honestly to investigate the subject, and this being true, it is very apparent how important becomes the question of antiseptics.

During the months of June and July, 1878, I was engaged in making a series of experiments on the antiseptic and germicidal action of various agents, which might also be available as anti-putrescents in the surgical treatment of wounds and injuries. The subject presents an extensive field for inquiry, and it is one, I believe, which is destined to receive much attention and study. In the first series of experiments I endeavored to ascertain *the quantity of the agent necessary to destroy life in a given time.*

Commencing, then, with *carbolic acid*, on June 24th, from a glass of water containing the more common forms of bacteriæ and vibriones, developed in an animal and vegetable infusion, I measured accurately into four small glasses the following quantities: Into No. 1, 80 minims; into No. 2, 120 minims; into No. 3, 160 minims; into No. 4, 200 minims

To each receiver, I then added one grain of crystallized carbolic acid. After ten minutes had elapsed, I subjected the different solutions to microscopic examination—using a high power. In No. 1 (strength 1 to 80) all life was extinct. In No. 2, all dead except certain gelatiniform amœbæ, exhibiting change of shape, and having several minute dark granules in their structure; these last still moved about quite actively. In 3 and 4, although necessarily examined several moments later than the first, life was scarcely affected; the different representatives of monadic life all reporting themselves alive and hearty with the exception of the vibrio spirillæ, all of that species being dead. One hour later I again examined the fluids. In No. 2, all life was extinct; 3 and 4 still containing their actively moving little swimmers in a state of rude health. After three hours, still alive and unchanged. After six hours, no change, and it was not until the acid had remained 24 hours in the fertilized water of glasses 3 and 4 that infusorial life became motionless.

At a different time of the same day, I made four similar mixtures; substituting an equal quantity of *creasote* where in the former I had used carbolic acid. Ten minutes after the addition of the creasote no effect was observed. Five hours later all dead in No 1, but in 2, 3 and 4, though kept for some time, no change took place.

Potassium salicylate was next tried in the same proportion. Ten minutes after its addition to the fertilized water, it had destroyed all the infusoria of Nos. 1 and 2, except one species of the latter. An hour later, all dead in No. 2. Four hours later, all dead in 3 and 4.

Quinia sulphate was mixed up with the infusorial fluid in similar proportion, with the result of destroying all life in Nos. 1, 2 and 3 in ten minutes or less. In No. 4 (one part quinia to 200 parts of water), all life was destroyed within the first hour.

Chloral hydrate.—After ten minutes, there was no change in the monadic vitality; but after an hour had gone by, no life was discoverable in Nos. 1, 2 and 3. No. 4 remained unaffected.

Amyl nitrite caused death in solutions Nos. 1, 2, 3 and 4

in a period of time varying from ten seconds to one or two minutes.

Camphor.—Dead after ten minutes in 1, 2 and 3; after an hour in 4.

We see, then, from the foregoing, that out of six antiseptic agents (each having been used in four solutions of the following proportions: 1 to 80, 1 to 120, 1 to 160, and 1 to 200), the nitrite of amyl stands first, its action being far more speedy and powerful than that of any other agent tried.

In the second rank stands quinia sulphate and camphor. It is proper to add that the two latter were rendered soluble by the addition of one or two minims of dilute hydrobromic acid in the case of the former, and the like quantity of alcohol to the latter.

Potassium salicylate stands next in order, four hours being sufficient to exterminate all life in the most dilute receiver (one part to 200); while in the case of the carbolic acid solutions, twenty-fours elapsed before all life was destroyed. Creasote ends the list of the agents reported, proving almost ineffectual in the proportion used with the other antiseptics.

I now thought it proper to test the power of the above agents in *preventing the development* of infusorial life in infusions containing *undeveloped* germs, or infusions made in aseptic water, and exposed during the experiment to the atmosphere. Accordingly, on June 27th I took half-dozen two-ounce glass beakers and filled them half full of pure water containing no life. Into each, I then placed one drachm of perfectly fresh muscular tissue from an animal just killed, together with a few grains of vegetable matter. I then placed of the sulphate of quinia, potassium salicylate, creasote, carbolic acid and amyl nitrite, three grains each, into five of the little vessels, leaving the sixth without antiseptic protection. These vessels were exposed to the atmosphere without covers. Twenty-four hours afterwards, the microscope revealed developed life in great profusion in the last two glasses (*i. e.*, the glass with no antiseptic, and the one containing amyl nitrite), the four others remaining unchanged. Eight hours later, the infusion containing potassium salicylate also contained life. Sixteen hours later, the infusions protected with carbolic acid, creasote and quinia

sulphate contained no appearance of life. Eight hours later, the three just mentioned *in statu quo*. Sixteen hours later, the carbolic acid jar swarmed with large rod-shaped bacteriæ. One day later, there were no bacteriæ in the two remaining glasses (creasote and quinine solutions), but in the quinine glass, there appeared an actively-growing fungus, consisting of a thickly intertwining mycelium hollow, and containing numerous spores, which were clearly seen within the highly refracting mycelial tubes. These tubes have a regular sectional division at intervals equalling about four times their breadth. One day later, no change. On Thursday, bacteriæ appeared in the creasote glass; and on Friday, they were developed in the quinine solution.

From the above, we deduce the following:

(1) That quinia sulphate possesses more powerful *anti-fermentative* properties than any agent yet tried. In the proportion of one part of the salt to 160 of fertilized water, it prevented for nine days the development of infusiorial life; although after four days it did not prevent the surface formation of a mucedinous growth.

(2) Creasote stands next, and, perhaps, should have been placed first, as it prevented fermentative creation—both animal and vegetable—for eight days.

(3) Then comes carbolic acid, having kept its infusion fresh for three days; and lastly, the salicylic acid salt must be placed at the bottom of the list, having prevented fermentative action only eight hours. The unprotected jar required one day; and that containing potassium salicylate, thirty-two hours for the production of infusiorial life.

The extreme volatility of amyl nitrite accounts for the fact of its having no power to delay fermentative action, notwithstanding its unequalled power of destroying existing life. The experimenter was not able to retain it in an infusion exposed freely to the air.

The agents reported were a few out of a number experimented with—those unmentioned not having recommended themselves through any antizymotic power. Thymol has, of late, been much spoken of by Continental experimenters as an antiseptic, but I was not able to get a reliable specimen in time to test with the foregoing.

In conclusion, I would say that I should look for far better results in antiseptic work of every description from the use of quinia sulphate and creasote solutions than we now have from the universally used carbolic acid. In the case of quinia sulphate, it may be used effectually, I think, in the proportion of one part of the salt to 160 parts of water, the solution being rendered soluble by a minute quantity of hydrobromic acid. Such a solution would be much less irritating to the skin than the carbolic acid solution ordinarily used (that used by Lister being carbolic acid one part, to water 30 parts). Also, the dressings might safely remain unchanged three times as long as in the case of carbolic acid. The latter advantage is most obvious to the surgeon.

Again, the strength of the solution used being five times weaker in the case of quinia sulphate than in that of carbolic acid, and that solution doing three times the work—*i. e.*, maintaining an equivalent effect three times as long—it is apparent that the antiseptic power in the protective dressing of wounds and injuries, is fifteen times that of carbolic acid, and so the difference in cash is trifling. The above advantages, together with its lack of smell, makes me place quinia sulphate at the very head of the list of the antiseptic agents yet tried.

The microscopic observations made in the foregoing were accomplished by the aid of a large Beck's stand, with powers varying from 350 to 1,400 diameters. The glass I found most suitable was an immersion one-tenth made for me by W. Wales, of Fort Lee, N. J., which worked superbly either with or without the aid of the achromatic condenser.

Chloral Hydrate Locally Applied in Tetanus.—Dr. Bigelow reports, in the (English) *Practitioner*, a case of tetanus caused by a rusty nail penetrating the foot, which was relieved in less than twenty minutes by introducing a drachm of chloral hydrate into the wound after it had been enlarged by incision.—*Canada Lancet.—American Medical Bi-Weekly*, July 20, 1878.

ART. V.—**A Review of the Neuroses of the Pneumogastric and Sympathetic Nerves, with some Account of the Anatomy, Physiology, and Pathology of these Nerves; also of the Vaso-Centres and Sweat Centres. The Exhibition of Electricity, Atropin, Muscarin and Pilocarpin; with Cases to Illustrate, &c., &c.** By JOHN J. CALDWELL, M. D., Baltimore, Md. (Read before the Section of Practice of Medicine, of the American Medical Association, held at Buffalo, New York, June, 1878.)

Distinguished medical authorities have designated the *pneumogastric nerve* as a regulating medium between parts of the human economy, which would else be dissociated. We may go further and say that the pneumogastric nerve, or *par vagum*, as sometimes termed, on account of its extraordinary diffusiveness, is a nerve of reflex character, effecting general structural harmonization by individual structural inhibition. It is the grand life nerve—the great mainstay of vitality, through whose broad distribution to, and complex relations with, numerous structures, our very being is perpetuated.

The pneumogastric arises (according to Draper) at the base of the brain, at the side of the medulla oblongata, and at the front part of the restiform body. Its root is in close relation with the nerve of the tongue (the hypoglossal); the sensory nerve of the face, and of the orifices of the nose and mouth (the fifth); with the seventh, that supplies the muscles of the face; with the nerve of the throat (the glosso-pharyngeal); and with the spinal accessory nerve, which is regarded as controlling the movements connected with respiration. The first branch of the pneumogastric—the pharyngeal—arises from the upper part of the trunk, and uniting with branches from the glosso-pharyngeal, the superior laryngeal, the sensory nerve of the larynx and sympathetic, forms the pharyngeal plexus. The external branch regulates deglutition and respiration, and the internal laryngeal supplies the mucous membranes of the larynx, the vocal cords, the epiglottis, and the base of the tongue. The cardiac and the œsophageal plexuses receive liberal supplies from the pneumogastric, which nerve, piercing the diaphragm, distributes various branches to the walls of the stomach. The nerve joins the large sympathetic ganglia. The semi-lunar branches extend

to the liver, duodenum, to the ganglia in the vena-cava, by which it is brought into connection with the phrenic—a nerve junction of great physiological and pathological interest. The diaphragm, the most important muscle of respiration, is brought into harmonious action with the lungs by means of the pneumogastric. But it would be impracticable for us to dwell upon all the infinite ramifications and distributions of the great nerve we are considering. It must suffice to say that every vital organ of the human economy receives from it a generous nervous supply.

"Division of the pneumogastric results in loss of sensation and power in the throat, and of action in the vocal cords. The glottis is partially closed, the action of the heart impeded, the pulse becomes fuller, the lungs lose their sensibility, the movements of the chest walls are less active, and respiration becomes less frequent, but deeper, until it finally ceases. The lung is deprived of air, and its capillaries become filled with blood. The mucous membrane is congested, and frothy serum exudes into the air cells; nutrition of the part is altered, and inflammatory changes are induced; the cardiac orifice of the stomach ceases to act, and its mucous membrane becomes pale. The intimate union of the pneumogastric with branches of the spinal and the sympathetic nerves, may lead to the development of symptoms similar to those arising from the irritation of the pneumogastric branches themselves."—(Habershon.)

The connection of the fifth nerve is of great interest in some diseases, as in hydrophobia—this nerve acting by its efferent branches upon the medulary centres—reflex action is at once adduced. The connection of the fifth with the pneumogastric is found in the effect of severe chill or shock. The reflex action is shown in ordinary sneezing, but is more decided when the power of the pneumogastric is weakened, and bronchitis or pneumonia is induced. The shock on the nerve power of the respiratory organs may be so great that the patient is, in a few hours, in a state of utter prostration.

The pneumogastric is powerfully influenced by emotions and passions, acting through the brain. Disease, at the origin of the nerve, may induce disease in any of the peripheral branches, either spasmodic or paralytic in character; and irritation in any set of peripheral branches may produce dis-

turbance in any other part to which the nerve is distributed, or in the centre itself. Alternation of irritation may be induced—at first one set of nerves, and then another, being irritated—a fact of great clinical interest. There is the most intimate sympathy between the pneumogastric and the sympathetic nerves, and connection between the former and the vaso-motor nerves.

Having spoken of the various structures supplied by the pneumogastric nerve, we will simply mention a few diseases to which those organs are particularly susceptible. Among those arising from spasmodic irritation are epilepsy, laryngismus stridulus, whooping cough, catarrh, croup, diphtheria, aneurism pressing on the recurrent nerve; among those caused by paralytic weakness are apoplexy, cerebral aphonia, labio-glosso-laryngeal paralysis, and aneurism. We might, also, include nervous shock, nervous irritability and some diseases of the heart.

In all forms of reflex irritation produced by disturbance of the peripheral branches of the pneumogastric—in reflex irritation of laryngeal nerves; in cardiac diseases of an organic character; in hysteria; in all laryngeal affections caused by morbid action at the origin of the pneumogastric, and which frequently produces pulmonary and gastric disturbances; in spasmodic and paralytic contractions of the œsophagus; in cardiac disturbances produced by nervous shock, deficient or altered neurine supply—the latter being an abundant cause of heart troubles (in this case it being particularly necessary to sustain the exhausted functional activity of the most important nerve of animal life, the pneumogastric); in all irritations of that nerve, producing pain and muscular contraction and vomiting as well as altered secretion, and sometimes perverted sensation, such as craving appetite, or, in case of weakness or partial paralysis of the nerve, causing loss of appetite, anorexia and distension of stomach—in all of these we have found that galvanization of the pneumogastric produces the most benign effects; and we have the testimony of the best neural authorities to sustain us in our view, that it may be resorted to in diseases of the heart; Althaus says, also, that it is applicable in asthma and *spasmodic diabetes*.

A few words in regard to the *great sympathetic*, the origin of which has so long been disputed, but which plays an important part in the grand nervous phenomena which we have been considering—the pneumogastric nerve aiding it in forming three of its plexuses, viz.: the pharyngeal, cardiac and solar. "In certain respects the pneumogastric and sympathetic seem to exhibit a reciprocal development; in some of the lower animals, the former predominates over, and supplies the place of the latter; and this replacement, it is said, goes on in the descending series until, in the cephalopodous mollusks, the sympathetic has disappeared, and the pneumogastric takes its place."

The relation of the sympathetic and spinal system is most intimate, through motor and sensory filaments, the white strands actually arising from the spinal cord.

As all the branches of the sympathetic contain fibres derived from the cerebro-spinal system, it cannot be considered a self-acting and independent system. As Draper says, "its functions must therefore be adjuvant to that system, and it must be admitted that the motor and sensory qualities of the included spinal fibres, according as they have been derived from the anterior or posterior columns of the cord, are continued in their association with the sympathetic."

Draper regards the sympathetic system as having, for one of its main functions, the equalization or balancing of the nervous force, and says that some such arrangement would seem to be necessary, since the organs of digestion, to which the sympathetic is so largely directed, are periodically in activity and periodically quiescent.

A great many conflicting opinions have been expressed as to whether the sympathetic can be reached by the galvanic current. The researches of Burkhardt and Ziemssen have experimentally settled the question affirmatively whether the continuous current penetrates to the cervical sympathetic.

Althaus says that galvanization of the sympathetic produces a feeling of *sleepiness* and *drowsiness*, which commences soon after the circuit is closed, continues during the application and for sometime after the current has been broken—the cause of the effects not being satisfactorily explained by him.

Dr. Hackly noticed that faridization of the sympathetic caused, at first, no change at all, but after a time produced the same effects as galvanization; mild currents and short applications generally caused contraction, while strong currents and long applications caused dilatation.

Eulenberg and Schmidt discovered that when the current had acted for some time, the heart's pulsation was diminished, which Althaus regards as probably owing to the stimulation of the pneumogastric and depressor nerve, in conjunction with the sympathetic.

Dr. Beard also concludes that both currents, when applied in such a way as to traverse the region of the neck in which the pneumogastric and cervical ganglia of the sympathetic are situated, markedly affect the pulse. Unquestionably favorable results have been obtained in certain cases of wasting palsy, and other affections of the upper and lower extremities, by galvanization of the sympathetic.

Cyon says that if we excite the cervical sympathetic alone, we may cause a contraction in the small vessels of the head, and augmentation of pressure in the large vessels. This modification of the blood vessels may be useful, in so far as it may promote the absorption of effused liquids, and prevent further absorption. The simple use of the electrotonic effects of the constant current may increase or diminish the tonicity of the cerebral blood vessels, thus producing a modification of the pressure of blood in the brain, which may result in a sanitary influence, "either by determining the arrival of a larger quantity of nutritive material, or by suppressing vascular spasm, or by removing thrombi in cases of embolism, and thus easing the circulation. The effects produced on the brain may evidently cause other effects in other parts of the body."

The conclusion arrived at is, that the proceedings known as the galvanization of the sympathetic are of considerable practical value; and it has been experimentally proved that that nerve is reached by the current, in the living subject, if the latter be applied by placing one electrode in the auriculo-maxillary fossa, and the other inside the cavity of the mouth,

opposite to the articulation of the lower jaw, or over the cervical spine.

"Dr. Budge, of Leipzig, and Dr. Augustus Waller, were about the first to draw attention to the fact that the dilatation of the pupils is regulated by cerebro-spinal centres, through the sympathetic nervous system. Experiments on the lower animals showed that the sympathetic nerve of the iris receives its fibres from two sources. This is not an uncommon occurrence among nerves of the cerebro-spinal system."

Althaus, Jaccoud and others, treat of progressive muscular atrophy as primarily a disease of the sympathetic system. The latter, in two cases which he examined, found atrophy of the anterior roots of the cervical nerves, and three or four upper thoracic nerves, but was unable to detect any change in the spinal cord. The cervical sympathetic was enveloped in an old fibrous sheath, containing fatty layers, and there was extensive fatty degeneration of the sympathetic nerve and cell matter. Our own views correspond with these distinguished writers, and our experience has been very favorable, having derived decidedly beneficial results from galvanization of the cervical sympathetic in the manner already indicated.

The latest advances in pathology have contributed materially towards clearing up the relations of the sympathetic nerve to the above terrible disease. As remarked by Dr. Friedrich Fieber, of Vienna, "we possess at the present time no remedy by means of which we can influence, even to a degree, the sympathetic system, except the electric (galvanic) current; and as we likewise have no other means to effect, even approximately, contractions of the affected muscles, no further commendation is needed for any one who has watched but a few cases even of muscular atrophy."

In progressive ataxia, there are symptoms which show that the sympathetic system is more or less involved, whilst great contrariety of views exist as to whether hemicrania is essentially a disease of the sympathetic system. DuBois Reymond and Moelendorf think that it is, whilst Anstie and Lebert are of the opinion that the anatomical seat of this disease is in the first branch of the fifth nerve. Romberg holds that the

seat of the disturbance is in the brain, and calls this disease neuralgia cerebralis.

By neuralgia of the pneumogastric and sympathetic, we mean painful affections of the stomach and bowels, not dependent upon changes of structure, but simply hyperæsthesia of the pneumogastric and solar plexus, or gastrodynia and neuralgia cœliaca.

Causes—anæmia, chlorosis, hysteria, onanism, and other neuroses; also, dislocations, flexions, inflammations and ulcers of the uterus; affections of the ovaries. Like other neuroses, neuralgias of the pneumogastric and sympathetic are distinguished by the typical course; *i. e.*, after an interval of freedom, paroxysms of the severest pain occur, or, suddenly, after a feeling of pressure, there is a severe griping pain, extending to the back and throughout the bowels, a feeling of faintness, shrunken countenance, cold hands and feet, a small intermittent pulse, pains so severe that the patient cries out, epigastrium puffed or greatly retracted; the patient presses the pit of the stomach for relief.

In sympathetic neuralgia, pains often occur in the thorax, under the sternum, and along the œsophageal branches. The attacks last from a few minutes to half an hour, then gradually subside, leaving the patient greatly exhausted, or else ceases suddenly, with eructations of gas and watery fluid, with soft perspiration and reddish urine.

We lately lost a patient, who, after exposure to the extreme cold, ate a hearty meal. A gentleman, fifty years old, had a sudden, severe attack of the above nature, termed by some authorities angina pectoris. The feeling of faintness and impending death are fearful features of this trouble.

As an interesting neurosis in a little child, two years old, we mention the following: A unilateral vaso-paresis of the right side, with mother's marks—*nævi-materni*—in small blotches, scattered from head to foot, quite uniformly; lines of demarcation sharp. The affection was limited by spinal column and median line of the abdomen. Galvanization of the sympathetic, in this case, produced a marked diminution of the coloration throughout, giving tonicity to the vaso-peripheral circulation.

A lady, 44 years of age, suffering from palpitation of the

heart, came under Shumaker's notice (*Centralblatt*, 1876, No. 32). After the diminution of the palpitation, she had nightly attacks of pain in the right side of the head, running from the occiput forward, accompanied with a roaring in the right ear, and a reddening of the whole right side of the face. After fruitlessly trying various remedies, the best being a weak, constant current through the mastoid process, he used, internally, 0.3 to 0.9 grammes of aqueous extract of ergot. After the use of 27 grammes within a few weeks, recovery took place.

Fisher (*Centralblatt*,, 1876, No. 25) made experiments on cats and horses by galvanizing the sympathetic. When the sympathetic in the neck of a horse was faradized, the blood-pressures increased, and the walls of the blood-vessels were tense, whilst the constant current gave negative results on the pressure in the arteries of the neck.

Gattman (in *Centralblatt*, 1876, No. 4) states that a tuberculous man, aged 44, had pain in the head and throat of the left side of the face and neck. By arduous labor, a secretion of sweat was induced, and there was also reddening of the left half of the face, especially of the left ear, and the temperature in the left auditory canal was one-tenth of a degree higher than in the right side; no trophic disturbance was visible, but the left eye was permanent and freely movable, and presented a strong injection of the conjunctiva, and secreted tears at times easier than the right; the eye re-acted normally to light.

Dr. Ott, of Easton, Pa., remarks that this case is of interest on account of the abnormal secretion of sweat upon only one side of the face, and accompanied with vaso-motor appearance, and paralysis of the vaso-motor fibres; but the movements of the pupil were unaffected. The facial and trigeminus and oculo-motor province were sound, and there was no disturbance of the power of accommodation of the pupil. Slight pressure in the neighborhood of the left sympathetic gave a small sensibility to it.

In looking at this case, it must be remembered that such injuries have proved that centres for sweat exist in the lumbar and lower part of the dorsal section of the cord, and that the sweat nerves accompany the vaso-motor nerves (although none have been found in the cervical sympathetic), and that

certain irritants, as nicotine and carbonic acid, call them into activity; and that atropine, pilocarpine and muscacine, call the sweat glands into activity. Thus Dr. Brown-Séquard reports cases (*Journal de la Physiologie*) where an acid substance on the tongue, calls out sweat on the brow, lips and nose. Here the sweat-centres are called into activity by reflex impressions.

I have in my practice a child who, when nursing at the breast, sweats at the knees. Here the irritation of the nerves in the act of sucking is conveyed to the sweat-centres, which throws the sweat-glands in the skin at the knee into increased activity. Why the glands at the knee should be selected is not very clear. I have seen in cases of anæsthesia of the thigh, irritation of the anterior surface bring the cremaster muscle into activity, and produce ascent of the testicle.

Lately Nawrock denies the existence of sweat-centres in the spinal cord, and thinks that, like the monarchial vasomotor centre, there is only one centre for the sweat, and that is seated in the medulla oblongata; but Suckrage has lately denied it.

A lady, aged 45 (*Centralblatt*, 1874, No. 81), suffered from migraine for many years, and especially at the menstrual periods. There was redness of the whole right side of the face, without previous blushing; the temperature was considerably heightened; the opening between the lids of the right eye narrowed; the right bulbus-oculo retracted; the right pupil was narrowed, and the right side of the forehead and cheek moist. The pulse was sometimes greatly decreased in frequency, and pressure on the inner edge of the right sterno-cleido-mastoid, as well as upon the spinous process of the seventh cervical and first dorsal caused some sensibility. Very remarkable was the fact that during the hyperæmia of the right side of the face, there was an increase of the capability of the sense of taste to all kinds of substances. This was a case of paralytic form of the blood-vessels, and was cured by the use of the constant current—kathode in the mastoid fossa, and the anode on the first dorsal vertebra.

The second case occurred after a sunstroke in the person of a driver, who was attacked with strong left-sided headache, and pain in the abdomen, accompanied with vomiting and diarrhœa, which ended in mania. These attacks repeated themselves twice a month, during which the face was

very pale. The left cervical sympathetic was sensible to pressure. Burg believes there was here an affection of the abdominal sympathetic, which was combined with the spastic form of hemicrania.

In the third case, a man, 40 years old, suffered neuralgia—sometimes of the right side, and sometimes left side of the face was affected—both with paralytic and spastic form of hemicrania. The spastic form was accompanied with a great amount of saliva—about two pounds. Both cervical sympathetics were sensitive to pressure, and the right side of the face was disposed to sweat; sometimes the attacks were accompanied with gastralgia and ecchymosis of the conjunctiva of the affected side.

In the fourth case, a lady, 47 years old, had very great pain in the left side of the face, with vaso-motor changes, narrowing of the space between the lids and the pupil of the left eye. The widening of the palpebral fissure was accompanied by action of the levator papebræ superioris in connection with the palpebral muscle, supplied by nerves from the sympathetic, and assisted in making a differential diagnosis. If the pupil is widened, a difficulty in raising the lid exists. This is a paresis of the oculo-motor nerve. If the pupil is narrowed, then there is an affection of the sympathetic.

A lady (Ott, *Centralblatt*, 1874), about every fourteen days, was attacked with vomiting, pain in the head, headache, vertigo, redness in the left half of face, neck and breast; difficulty in speaking; weak vision; loss of memory; a feeling of fullness in the head, with strong vertigo, and a state of general depression. The kathode was placed on the left cervical sympathetic, and the vertigo disappeared; after the first sitting, the redness and the difficult vision, and weakness became better. Ott believes that the difficulty in speaking and depression depends on a chronic relaxation of the blood-vessels of the brain, consequent on paralysis of the sympathetic. Narrowing of the pupil was not observed, but it was open at night. There was repeated difficulty in getting breath, by which the patient was driven from bed.

Frankie relates (*Centralblatt*, 1874, No. 52) a case of unilateral sweating in a man 60 years of age when he was attacked by difficulty of breathing, hypertrophy of heart, and enlargement of one of the wings of the thyroid. He found on section of the body after death, in the lower cervical ganglion of the side affected, visible with the naked eye, objects of the size of a grain of sand, which presented, under the microscope, an endothelium, and filled with blood corpuscles.

They are found in the continuity of the blood-vessels, and form varicose dilatations of the same.

The ganglion cells were strongly pigmented, but normal in size. These changes were found only on the side affected. By the increase of the blood, the ganglion fibres were compressed, and a paralysis of the sympathetic ensued.

Seligmiller reports a case (*Centralblatt*, 1873, No. 42) of neuralgia of the abdominal plexus of the sympathetic. A man, 33 years of age, was wet and cold for a long time. Every few weeks the face became red, and there was pain in one of the extremities, accompanied with a paroxysm of coughing, which ended in vomiting; then a desire to go to stool, with a cramp-like pain in the rectum, and the whole hypochondium. The first evacuations were normal, and after the evacuations there was pain in the back, accompanied with vomiting and cramp-like deglutition, which, after lasting twelve hours, the attack closed with vomiting and remained away over next day, and on the third day ended by renewed desire to defecate. Then the patient had rest for four weeks, and recovered quickly. Seligmiller believes the described symptoms to be a neuralgia of the solar plexus, or visceral neuralgia. No lead poisoning could be diagnosticated.

Galvanization of the Cervical Sympathetic.—The portion of the sympathetic to which galvanization is chiefly directed for therapeutical purposes, is the cervical, although the cephalic, thoracic and abdominal ganglia are unquestionably affected by it, though not with so specific, demonstrable and immediate results.

There are a number of methods by which the superior, middle and inferior cervical ganglia may be demonstrably affected by the galvanic current.

1st. One electrode with an oblong extremity is placed in the auriculo-maxillary fossa, while the other, with a larger surface, is applied over, or by the side of the sixth or seventh vertebra. The second electrode may also be applied at any point along the spine, from the occiput to the coccyx. It is by this method that diplegic contractions are usually produced with most success.

2d. The first electrode being placed, as before, in the auriculo-maxillary fossa, the other, with a surface of moderate diameter, is applied just above the manubrium sterni, by the side of the sterno-cleido-mastoid muscle. The second

electrode may also be applied higher up in the neck, opposite the middle cervical ganglion.

The above are the two methods which have been most frequently employed, and are described in Drs. Beard & Rockwell's work. Other methods are the following:

3d. The first electrode being placed as before, the other may be applied on the shoulder, elbow, or in the hand of the opposite side, or in the axilla.

4th. Both sides may be galvanized simultaneously, by placing an electrode over the mastoid processes.

5th. One electrode is placed just above the manubrium sterni, and the other at any point down the spine.

6th. One electrode is placed over the sixth and seventh cervical vertebræ, and the other over the brachial plexus, and at the pit of the stomach, just above the manubrium sterni, in either hand, or at the feet.

Notwithstanding the length of this paper, we will better serve our purpose by adding the following article on *Sweat Centres—the Effect of Muscarin and Atropin on Them.* By Isaac Ott, M. D., Lecturer on Experimental Physiology, University of Pennsylvania; and G. B. Wood Field, Student of Medicine. (*Journal of Physiology*, Vol. 1, Nos. 2 and 3:)

"The fact that, besides sensory and motor nerves, secretory nerves exist, was established by the brilliant experiments of Ludwig on the submaxillary glands, although the theory of excito-secretory function was put forth by Campbell, of Georgia. Goltz was the first to notice that, after irritation of a nerve, the sweat secretion was increased. Luchsinger, of Zurich, and Miss Kendall, of Boston, found that after irritation, either of the sciatic or brachial in the dog or cat, an increased secretion of sweat took place, and that it ensued after ligature of the aorta, and during the first fifteen minutes after amputation of an extremity. The inference follows that this increasing secretion of sweat is not due to vaso-motor changes. Later Luchsinger located these sweat-centres in the spinal cord in the lumbar and lower part of the dorsal region; and came to the conclusion that the sweat-fibres in the sciatic traverse previously the abdominal sympathetic; that psychical acts, as fear, will, in the cat, produce sweating; that heat, asphyxia and nicotine act on the sweat-centres, increasing the secretion; that irritation of

a sensory nerve will call the sweat-centres into activity; and that sweat-fibres run in the same path as vaso-motor fibres, which last fact has been also discovered by Ostrunoff. Nawrocki believes that a sweat-centre is located in the medulla—not in the spinal cord—although this has recently been denied by Luchsinger. Both Luchsinger and Nawrocki have also investigated the action of pilocarpin and atropin. They both found that after a dose of pilocarpin, the feet sweat, even when the sciatic has been divided. Luchsinger seems to believe that pilocarpin acts centrally, in addition to its peripheral action, whilst Nawrocki states that it only acts peripherally. This is the state of the subject up to the present time.

Having been somewhat interested in muscarin, we thought it of interest to make some experiments in reference to the action of this drug on the secretion of sweat, and as to the effect of atropin. To satisfy ourselves that these phenomena were not dependent on other causes, such as vaso-motor changes, we made some experiments."

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"These experiments demonstrate that muscarin can by a peripheral action excite the sweat glands, and that atropin also by a peripheral action can arrest it. That neither muscarin or atropin has a direct central action, I am in no position to deny. In man, Kappe and Ringer have proved that muscarin also excites an increased perspiration, and Ringer and Fothergill have also proved that atropin prevents and dries up the perspiration in man. A peripheral action of these drugs on the sweat glands would harmonize well with their action on the submaxillary glands—muscarin exciting it by a peripheral action on the chorda tympani and atropin paralyzing it.

"If, now, pathological cases are examined with a view to explain the sweating occurring in them, we find that several cases are on record where sweating followed an irritation in a reflex manner. Thus Brown-Séquard (*Journal de la Physiologie*, Vol. 1) in his own person finds that when he excites the nerves of taste, as by chocolate, in less than five minutes a very abundant secretion of sweat ensues on the lips, nose and forehead, which takes place as well in the spring. Barthez describes a case where a little salt on the side of the tongue produced sweating of the cheek on the same side. Rouyer also details two cases where a similar sweating and redness of the region over the parotid took place on eating. Here, undoubtedly, the nerves of taste call the sweat-centres supplying nerves to the face into a reflex activity. All diseases attended with an increase of carbonic acid in the blood beyond normal, have an excess of sweating explained by the fact of the gas exciting the sweat-

centres. I have under my care a case of localized myelitis in the lumbar region, where no sweating ensued till both sensation and motion returned. Here the sweat-centres must have been involved in the inflammation."

ART. VI.—**Cases of Opium Poisoning Relieved by the Application of Scalding Water.** By WILLIAM SELDEN, M. D., Norfolk, Va.

Since the hypodermic administration of morphine has gotten into general use, every now and then death has ensued from small doses cautiously given. Probably a much larger number of fatal cases have occurred than have come to light, for few of us have the moral courage to publish unfortunate cases, with a view to warn others of danger.

I have not, myself, had the misfortune to meet with a death from this cause, but, within a few years, have seen two cases, where most alarming, and apparently fatal, symptoms supervened. These two persons were saved, when death seemed inevitable, by the use of a means which I have often resorted to in cases of profound torpor of the brain from other causes, but which, so far as I am informed, has never been used in cases of opium poisoning—viz., immersing the feet and legs in water scalding hot. I will relate the cases in detail, that others may profit by my experience.

CASE I.—On the 14th November, 1874, about 8 o'clock P. M., I was called to a young man, 20 years of age, remarkable for his vigorous health and great muscular power. He had come home about an hour before and retired to his room. Soon afterwards he was heard to be vomiting, and then to fall upon the floor in a fit. When I reached him he was on the bed, held down by main force, by his father and elder brother, both powerful men, who were endeavoring to give him chloroform to control his spasms; his pulse was about 100 and full; face flushed; pupils dilated moderately; he was having tetanic spasms so rapidly that they seemed almost continuous; his limbs were rigid, and opisthotonus was very marked. Although incapable of speech, and apparently of hearing, he was not absolutely unconscious, for he resisted the chloroform by turning his head whenever the napkin was applied to his nostrils.

I had some months before seen him in a similar state, but marked by less violence. On that occasion, when he had recovered sufficiently to speak, he complained of severe pain in the præcordial region, which was relieved by the hypodermic injection of one-third of a grain of morphia sulphate. Hoping for the same good result from the same remedy, I again resorted to the hypodermic injection of morphia; but, as the symptoms were so violent, I gave half a grain. No improvement followed; the spasms continued with unabated force, but were intermingled with motions obviously voluntary, with some return of consciousness. He was seized with maniacal furor; he suddenly sprang from the bed on which he was lying, to another bed, and split a stout head-board with a blow of his head; he then got upon the floor, and on his hands and knees, and butted with his head repeatedly and violently against the wall, until he broke the wall and fell back stunned. As soon as he recovered from the stunning, he became as violent as ever, requiring two or three strong men to hold him. Up to this time he had not spoken. Finding his fury and spasms unabated, and the pupils of his eyes unaffected by the morphine, although more than half an hour had elapsed since its administration, I thought I would be justified in repeating the dose. I now gave one-third of a grain of sulphate of morphia, and combined with it one-fortieth of a grain of sulphate of atropia (Squibb's), thinking thereby to lessen the danger of excessive narcotism. In about fifteen minutes he became calmer; the spasms ceased entirely, and soon afterwards he spoke, answering questions readily and rationally. He now complained of intense pain over the heart and sternum, as he had done on a former occasion. He soon showed signs of drowsiness, the pain subsided and the pupils contracted. As he was now perfectly quiet and rational, I persuaded him to lie down on the floor on which he was seated. He did so and soon fell asleep, it being now fully an hour from the first dose of morphia, and half an hour or more from the second. He had been asleep but a few minutes, when his brother, who was sitting near him, remarked, "Doctor, how slow he is breathing!" I took out my watch to count his breathing; from one expiration I counted upwards of twenty seconds without an inspiration. In alarm, I ceased counting, and raising the gaslight discerned that he was pale and livid, with his tongue thrust from the corner of his mouth. Apparently he had ceased to breathe. I at once poured a pitcher of cold water over his head, but without effect; he did not wince. I then directed

his father to run to the kitchen for hot water, and his brother to beat the soles of his feet, which he did with a heavy shoe, with the force of a Turkish bastinado, but without exciting the slightest sign of feeling. Meanwhile, I was trying to excite inspiration by rolling him over, compressing his ribs, etc., and had succeeded in getting an occasional sigh, when his father came in with a tub of water very hot (the kettle was boiling when it was poured into the tub). I at once thrust his naked feet into the hot water; he quickly withdrew them. I forced them back again, when he immediately jerked them out with force, and, at the same time, he raised his arms, opened his eyes, and soon cried out that we were burning his feet. The return to consciousness from a state of apparent death, was so sudden, that it seemed to me like raising the dead. We now, without much difficulty, kept him awake by ordinary means, such as shaking, calling to him in a loud voice, making him walk and talk, and, as soon as it could be prepared, giving him large quantities of very strong coffee. He improved steadily, complaining only of his feet, which were very red, with a few scattered blisters, and of drowsiness. At 10 o'clock, *i. e.*, five hours from the first dose of morphia, and four hours from the sudden occurrence of narcotism, finding his breathing, pulse and intelligence normal, I allowed him to sleep, and left him in the care of his family, with instructions to watch his breathing, and not to allow it to fall below 12 without awaking him. The next morning I found him sitting up, complaining of nothing but his feet, which were slightly blistered and inflamed.

I could not account for these singular convulsive attacks, but have since learned that they were due to alcoholic stimulation, as on both occasions he had been drinking freely. I have never, in a professional experience of nearly fifty years, encountered anything like it.

Case II—*Nov.* 26, 1874.—I was summoned, about 4 P. M., to see Mrs. L., who was suffering with severe headache, to which she was liable about the close of the menstrual period. Being in attendance on a case of labor, I was unable to go at once, and requested that Dr. R. B. Tunstall, who had before seen her in these attacks, should be sent for. After I had gotten through with my labor case, I called at $6\frac{1}{2}$ P. M. Dr. Tunstall had seen her, and at $4\frac{3}{4}$ P. M. had given her hypodermically a dose of morphine, which he repeated at $5\frac{3}{4}$ and left, promising to return in an hour. I found her suffer-

ing agonizing pain over the left eye, from which she obtained only momentary relief by inhaling small doses of chloroform—the pain always returning, with the same intensity, as soon as the effects of the chloroform wore off. Her pupils showed no effect of the morphine. She vomited frequently—whether from the pain, the morphine, or the chloroform, I could not tell. Her intelligence was perfect, and she had no fever. Not knowing how much morphia she had taken, I was afraid to repeat it, but gave her hypodermically $\frac{1}{48}$ of a grain of sulphate of atropia. Soon afterwards, Dr. Tunstall came in, and told me he had given, at each dose, $\frac{1}{3}$ of a grain, and that, on a former occasion, he had to give her, in a similar attack, a full grain before she obtained relief. He advised a repetition of the dose, and left the case in my hands. Not having got over the great fright which I had a few weeks before with Mr. B., I hesitated to give more morphine at once, but decided to wait and see what effect the sulphate of atropia might have, and meanwhile contented myself with local applications and the inhalation, from time to time, of a few drops of chloroform. However, finding no effect from the remedies already given, the pain continuing as excruciating as ever, I at $7\frac{3}{4}$ (*i. e.*, two hours from the last, and three hours from the first dose of morphia) injected hypodermically another one-third of a grain of morphia, with which I combined $\frac{1}{48}$ of a grain of sulphate of atropia, hoping to neutralize the narcotic effect of the morphia. I now stopped entirely the use of chloroform. After the lapse of about half an hour, the pain began to abate, and she showed signs of drowsiness; at $8\frac{3}{4}$ she fell asleep, her mind being perfectly clear to the last, for only two or three minutes before she closed her eyes she requested her friend, Mrs. J., not to allow her little boy to go to the door or window to see a torch-light procession which she heard approaching, as he had been threatened all day with an attack of croup.

She had been asleep but a few minutes, when Mrs. T. called my attention to her great pallor. Upon brightening the gaslight, I perceived that she was not only deadly pale, but very livid, and her tongue protruded from her mouth. She had ceased to breathe, and seemed to be dead. I at once dashed a pitcher of cold water over her head; she did not wince. I directed Mrs. T. to beat her feet, which she did most vigorously with a long-handled flesh brush which happened to be at hand. I, myself, went to work trying to excite respiration by compressing the ribs, raising her arms, rolling her over, &c. She at last fetched a sigh, which was

repeated after a long interval, and again, perhaps twice in a minute, but I had no time to consult my watch.

I left her for a moment to call a servant. As soon as she appeared, I ordered hot water; unfortunately, there was none, and no fire in the kitchen. I told her, then, to run for Dr. Tunstall, who lived very near. He came at once to my aid; her respiration, under my continued efforts, had improved a little, being deeper but not exceeding, I think, three or four in the minute; her pulse was frequent and feeble; her skin cold, complexion rather livid; pupils contracted, but not excessively so, owing, probably, to the atropin which he had taken. Dr. Tunstall sent at once for his electro-magnetic battery, and assisted me in my efforts to keep up artificial respiration. Dr. Philip B. Baker, of Suffolk, who happened to be on a visit next door, now came in, and assisted us by setting the battery to work. We passed shocks incessantly in the course of the respiratory nerves. Under their influence her breathing became more frequent, and her complexion improved. Still we found it impossible to arouse her, or to produce the faintest voluntary motion, by pinching, slapping, dashing cold water in her face, &c. The case seemed as unpromising as it well could be. As soon as I could procure it, I injected into the rectum eight ounces of a very strong infusion of coffee. At length, about 10 o'clock (more than an hour from the sudden narcotism) a tub of very hot, but not scalding, water was brought. I at once thrust her feet into it; she quickly withdrew them (this being the first voluntary movement for more than an hour). I forced them back again and held them in the water for some moments. She now jerked them out violently, threw up one arm, opened her eyes, and stared stupidly around her, as one aroused from a deep sleep. From this time we kept her awake by talking to her, shaking, and, occasionally, administering a smart slap. She swallowed without difficulty, and drank freely of strong coffee. She spoke and answered questions intelligently though very drowsily. About 1 P. M., her respiration having increased to 12 per minute, her pulse, temperature and intelligence normal, we allowed her to go to sleep, with directions to watch her closely and awake her if her breathing became slower. The next day she was in bed, suffering from sick stomach and headache, the usual results, with her, of a dose of opium; her feet were very red and painful, but not blistered. In a few days, she was in her usual health.

In both the above cases, I was struck with the fact that,

although the intensity of the symptoms for a long time resisted the influence of the morphia, yet, as soon as the pain ceased, the alarming narcotism came on with such suddenness that, in two or three minutes after falling asleep, the patient seemed to be dead. This may probably be due to the fact that, the pain being of a neuralgic character, and not dependent upon a fixed or inflammatory condition, as soon as the pain ceases, there is no longer any painful condition to produce a resistance to, or tolerance of, opium—such as exists, for instance, in acute peritonitis, where the tolerance of opium is such that it is scarcely possible to produce narcotism by the largest doses. If this view be correct, we ought to be especially cautious in giving morphine hypodermically to persons suffering from nervous or hysterical pain or excitement.

The effect of immersing the feet in hot water was so instantaneous in arousing the patients to consciousness, as to leave no doubt upon the minds of those present, that their recoveries were due solely to that remedy; and I have no hesitation in recommending to the profession scalding water to the feet as the most powerful means that I have ever seen used for a patient insensible from an overdose of opium. I think it acts by exciting intense and continuous pain, which not only at once arouses the torpid brain to action, but creates a tolerance of opium until the effect of poison wears off. I do not think it necessary to blister. I have always endeavored to use water hot enough to cause severe pain, but to stop short of vesication, though in most cases in which I have used it, blistering has occurred. This, however, is but a trifling evil in comparison to the danger run from other causes.

Hot water, however, is not always at hand, and time is precious. What shall we then do? When I was relating the next morning, at the breakfast table, the narrow escape from death of Mrs. L. (an intimate friend of ours), and spoke of my great distress at not being able to procure hot water at once, one of my daughters remarked that, if intense pain was the effect sought to be produced, why not apply to the feet the flame of a lighted match or newspaper? The suggestion, I think, a good one, and under the same circum-

stances I should not hesitate to resort to it. It might seem harsh treatment, but in such a case the choice is between a burn and death.

I have been in the habit, for more than thirty years, of plunging the feet into water scalding hot, or nearly so, in cases of coma or torpor of the brain, from various causes, and think that I have frequently seen lives saved by it. The remedy is not new. There is a case reported by Lallemand, of Montpelier, in his work on the "Brain," published in 1830, where boiling water was poured from a kettle over the thighs and legs of a patient suffering from congestion of the brain with coma, who recovered. I suppose that most physicians may be familiar with its use, but I am not aware that it has ever been used in cases of opium poisoning. The first time that I ever used it in a case of narcotism, was in the year 1873.

Case III.—On the 22nd of May 1878, I was suddenly called, while passing along the street, to see Mr. K., whom I found lying insensible, and learned from his wife that he was a drunkard, and had just recovered from a severe debauch. He had gone out that morning, for the first time, and on his return, had thrown himself upon the bed, and fallen asleep. Soon afterwards, her attention was arrested by his labored breathing. She endeavored to arouse him but could not succeed. She at once sent for aid, and her messenger meeting me, called me in. I found him in a deep sleep, with labored breathing, five times in the minute; pulse very feeble, rather frequent; skin cool and moist; complexion pale and rather livid; pupils contracted to a pin's point, and insensible. I inferred, from these symptoms, that he had taken an overdose of opium. There was no smell of opium or whiskey however. Finding it impossible to arouse him, by shaking, slapping, the bastinado, cold effusion to the head, &c., I determined to try the effect of putting his feet into scalding water, which I had often found effectual, in deep stupor, from other causes than opium. While the water was heating, Dr. Samuel Selden, his family physician, came in. He concurred with me in my diagnosis and consented to the trial of the hot water. As soon as it was ready, we plunged his feet into it; he at once withdrew them. Upon placing them in it a second time, he jerked them out violently, opened his eyes and stared around him rather stupidly. He soon answered questions, but with some difficulty. I now left him in the hands

of Dr. Samuel Selden, who gave him strong coffee, and remained with him until all danger was past. There was no relapse into narcotism. The next morning he was himself, and told Dr. Samuel Selden that, feeling very wretched, he had stepped into a drug store and asked for a dose of morphine, which was given to him and he drank it in the shop. He did not know the quantity and the druggist refused to tell. Judging from its effect, the dose must have been very large. Since then Dr. Samuel Selden has seen Mr. K. in the same condition and from the same cause, and relieved him by the same treatment.

These are all the cases of opium poisoning that I have seen in the last fifteen or twenty years—and may probably never see another, as I am near the close of my professional career. I must therefore beg my young brethren to try the scalding water, which I do not hesitate to recommend as the most successful remedy that I have ever seen used, and to publish their cases. As a matter of practical interest, I will mention two other cases, not of opium poisoning, where life seemed to have been saved by the application of scalding water.

Case IV.—About twenty years ago, I was called, in consultation with Dr. Robert B. Tunstall, to a Mrs. D., who had been delivered about twelve hours of her first child. The labor had been attended with convulsions, which continued after delivery. When I arrived, she seemed to be moribund. She had been unconscious for many hours; was in a state of profound coma; pupils largely dilated and insensible; respiration stertorous with a loud tracheal râle; pulse very feeble; skin cold and clammy. The case seemed hopeless, but I suggested, as a forlorn hope, the putting of her feet and legs into water painfully hot, but to try and stop short of blistering, so as to avoid the appearance of unnecessary cruelty. Dr. Tunstall consented to try it. I was unable to wait and see the result, as I was in attendance upon a case of labor, to which I was obliged to return. The next day, the Doctor informed me that the remedy had acted like a charm; she was quickly aroused to consciousness, had no return of the convulsion, and was then doing well. Her feet and legs, however, were blistered from near the knee to the soles of the feet, although he had been so careful as to try the water with a thermometer, making it, I think, only 120°. She had a delicate skin, greatly distended by anasarca, which may account for its being blistered by water of so low a tem-

perature. She made a good recovery, and I believe is still living.

Case V.—In 1870, I was called to see, in consultation with Dr. Broadus, Mr. H., an old man, of very intemperate habits. He had been suffering many days from the effects of a severe debauch, and that morning became unconscious. I found him lying on his back apparently dying, his breathing labored and stertorous, with loud tracheal râles; pulse very feeble; skin cold and wet; pupils largely dilated, and insensible to light. Every effort to arouse him had failed. I suspected that he had had a convulsion while his wife was out of the room, but no one had seen it. I advised, as the only possible means of reviving him, scalding his feet and legs. Although I had but little hope that it would succeed, Dr. Broadus readily assented to the trial, and so did his wife. As soon as a bucket of scalding water was procured, we plunged his feet into it, and held them there. In a moment he jerked them out violently, sprang up in bed to a sitting posture, and looked about him with a wild and frightened air: his pupils contracted and his breathing became natural. He soon spoke, and did not again relapse. He was out as soon as his feet and legs got well, and, I am happy to learn, has become a sober man.

I will not extend this paper—already, perhaps, too long—by citing other cases. I hope that others may find the same benefit that I have frequently had, from a remedy, for the knowledge of whose great value in cases of cerebral torpor, or, as it was called in those days, congestion of the brain, I was indebted, more than thirty years ago, to a letter from a valued friend, Dr. Conway D. Whittle, of Mecklenburg county, Va., one of the most intelligent and skillful physicians of our State.

Clinical Reports.

Abscess of the Right Lobe of the Cerebellum, Resulting in Death—Autopsy—Unusual Weight of Brain. By CHRISTOPHER TOMPKINS, M. D., Richmond, Va., Lecturer on Anatomy, Medical College of Virginia; Deputy Coroner of the City of Richmond, etc. (Reported to the Richmond Academy of Medicine, September 30, 1878.)

On the afternoon of August 30th, 1878, I was called to see Andrew J., a colored male child, three years, three months old, from whose mother I obtained the following history:

Naturally healthy and well made, he remained so until seven months ago, when he was taken with "lung fever." When convalescent, shortly afterwards, he fell down a flight of steps, bumping his head as he went, but without apparent injury. Then gradually crept on him a "slow fever," which has continued, without intermission, to date. He continuously, and by slow degrees, weakened in the legs till, at length, he was unable to stand, and his extremities stiffened.

His condition, when first seen by me, was peculiar. His physique was excellent, unless exception could be taken to his enormous head, which was, however, well formed in every respect, and presented no unusual character whatsoever, save its size. Taking hold of his feet or hands, whether he was awake or asleep, they were rigid, and only gave way at the joints when considerable force was used. When left alone, his toes were bent inwards towards their palmar surface, and the ankles straightened. His thumbs and fingers flexed towards the centre of the palms of the hands. Sleeping generally on his left side; if disturbed, he would manifest peevishness and resume his old position. Intellect clear; appetite good; body plump and well formed, and face fully developed in same proportion as head—looking not in the least like the pinched and diminutive countenance of hydrocephalus. Pupils normal, and alike on both sides; tongue coated, and bowels slightly costive. On one of his fingers could be seen the remains of an old bone felon, that had never perfectly healed.

During the four following days in which I visited him, a mercurial purge, with a little santonin, was administered, and a blister applied to the occiput and nape of the neck. Apparently he did well on the treatment till the middle of the fourth day, when he suddenly commenced to sink; his muscles relaxed, and in a few hours (during which Valentine's Meat Juice and weak toddy was given) he was dead—the only peculiar symptom noted being a congested condition of the conjunctiva of the left eye, and drooping of the lid on the same side, concerning which I was then informed that the same condition of the eye and lid had been, from time to time, noticed before.

Autopsy August 8th, 1878, in the presence of, and assisted by Dr. J. J. A. Moncure, of Richmond, and Mr. W. A. Deas, medical student, who takes his last course of lectures this winter at the Medical College in this city. Occipito-frontal circumference of the head, 1 foot, $9\frac{1}{8}$ inches; occipito-mental, 1 foot, $11\frac{1}{2}$ inches. The scalp was charged and congested with blood, and the skull bones were exceedingly vas-

cular, but hardly more so at one point than another. The sutures were firmly and completely united, except a place about the size of a small, split, garden pea in the anterior fontanelle, and one each on the lateral fontanelles of the same size. A pair of scales were obtained from a neighboring store, and the brain being carefully placed on them was found to weigh, after dissection and clear of all fluids that would run off from it, forty-one ounces. Its substance was much congested. The punctæ vasculosæ were large and numerous. The ventricles were so bulged and enlarged by a clear serous fluid as to nearly lose all shape. It was estimated that at least a pint of fluid escaped from the membranes and sub-arachnoid spaces. The whole of the right lobe of the cerebellum was involved in an abscess with a hardened rim, which left only sufficient of it to form a thin layer of brain tissue about its circumference, and from it flowed from four to six tablespoonfuls of yellow, creamy pus, of a character known as "laudable." The membranes generally were adherent to each other and to the bones, and at the seat of the abscess could not be detached from them or each other.

Remarks.—I have thought the above case sufficiently extraordinary to be worthy of a report. In Gray's *Anatomy* (1870), page 580, it is stated of the human brain, that its prevailing weight "in the male ranges between 46 ounces and 53 ounces, and in the female between 41 ounces and 47 ounces." It will be observed from this that the brain of this child, 3 years, 3 months and 4 days old, was as heavy as is the brain of some adult women. Cannot the state of affairs observed here be accounted for on the theory that the abscess, producing an increased flow of blood to the head, caused there a hyper-nutrition which resulted in the unusual growth I have described?

The mother informs me that this case was the subject of frequent clinical lectures in Boston, where she had resided until a few days of my taking medical charge of the child.

A Case of Yellow Fever, Developing after a Trip from Memphis, Tenn.—By JOHN RANDOLPH, M. D., Haymarket, Va.

Mrs. J. left Camp Williams, on the suburbs of Memphis, on August 23d, in company with her husband and two children, and arrived at Alexandria, Va., on the night of the 25th. On the morning of the 27th, the family left Alexandria and

came to Haymarket, Prince William county, Va. The lady seemed very much broken down and fatigued on her arrival, and complained of having severe pains in her back and head, which she said had been annoying her for the past three weeks; and she also remarked that her complexion had changed to a yellowish hue. She had taken no medicine of any kind, but had been drinking freely of gin as a preventive of yellow fever. About four o'clock in the evening, she took a dose of castor oil, as her bowels were very costive. About bed time, she complained so much, that her husband requested me to go in to see her. I found the following symptoms: Pulse, 110, rather full and bounding; respiration, 20; face very much flushed; skin dry; tongue very red, with a whitish fur around the edge; thirst intense. Prescribed Dover's powder, grs. xij; calomel xiij.

August 28.—I saw her about 9 A. M. Pulse, 110; respiration, 22; face slightly flushed; skin moist; tongue presented very much the same appearance as on the evening before; thirst still great; pain in her loins, and intense cephalalgia—the pain was especially referable to the supra-orbital region. Bowels acted during the night, the evacuations having the appearance of very dark molasses, and were quite offensive. Urine small in quantity, but very high colored.

12 M.—Pulse, 105; respiration, 23; no marked change of any consequence in any of the other symptoms.

9 P. M.—Pulse, 112; respiration, 24; active delirium with frequent attempts to get out of bed. Treatment during the day, consisted of large doses of quinia, hoping that it might reduce the fever; but as it seemed to aggravate it, the medicine was discontinued. A solution of chlorate of potash, grs. xv, was given with her drinking water, every two or three hours. At bed time, thirty grains of bromide of potassium were administered.

August 29, A. M.—Pulse, 112; respiration, 24; eyes very much swollen and presented a fiery appearance; tongue still red, but dry and fissured; bowels very costive, and made a rumbling noise, which the nurse said had been going on all night.

12 M.—Pulse, 105; respiration, 24; other symptoms about the same.

9 P. M.—Pulse, 112; respiration, 23; delirium again present; very restless. Prescribed quinia in three-grain doses, every three hours; sweet spirits of nitre in combination with a solution of chlorate of potash, was given one hour and a half after the quinia. Nourishment in the form of Colden's Liebig's liquid extract of beef was administered freely; also

milk punch and egg-nog. As she was very restless at bed time, bromide of potassium, grs. xxx, was administered.

August 30, A. M.—Pulse, 110; respiration, 22; great restlessness, with wandering pains in different parts of the body; no appetite; two operations during the night of a dark tarry color, and very offensive. Intense jaundice of the whole surface of the body.

12 M.—Pulse, 105; respiration, 24; the conjunctiva very yellow, and this, with the glassy appearance of the eyes, gave the patient a very striking and peculiar aspect. Tenderness on pressure over the epigastrium, with occasional vomiting, after taking beef tea; nothing peculiar.

9 P. M.—Pain in right iliac region, with considerable tenderness on pressure; no gurgling could be heard, nor was the abdomen swollen. The menses made their appearance; no other change in symptoms. As the case seemed one of malignant character, I prescribed carbonate and muriate of ammonia, $\frac{\text{ss}}{\text{aa}}$ grs. v, in mucilage solution, every two hours; and continued beef tea, milk punch, &c. Milk was used freely until it produced nausea, when it was withheld. Lumps of ice were used to quench the thirst. A mustard plaster was applied to the stomach with great benefit, and turpentine stupes to the right iliac region with considerable relief. At bed time, ten grains of Dover's powder and thirteen of calomel were prescribed.

August 31, A. M.—Patient rested well during night, and had an operation about sunrise, of a dark watery character, but not very offensive. Pulse, 109; respiration, 23; delirium, with great heat about the head; skin quite moist. The whole surface of the body and conjunctivæ presented an orange hue. Vomited once; matters ejected presented nothing remarkable, other than the medicine and bile.

There was little change in the patient's condition until the morning of *September* 1; she then sank into a comatose state, from which we had the greatest difficulty to arouse her to take stimulants and nourishment. Pulse small and jerking; extremities cold and moist; cold perspiration upon the forehead. Continued the same treatment, and called Dr. Thos. F. Tebbs in consultation, who differed with me in my diagnosis, but agreed with me in my treatment. The Doctor thought it a case of typho-malarial fever—the disease I pronounced it to be on the second day of her illness; but subsequently changed my mind. It certainly seemed to have a typhoid tendency, as far as I was able to observe. Dr. Tebbs, although a practitioner of thirty-six years experience, had never seen a case like it. The patient, however, had the yel-

low skin, the heavy, glassy eye, the quick pulse—all but the characteristic black vomit. She was blistered on Sunday evening over the umbilical, right iliac and right hypochondriac regions; and although the blisters drew well, still she did not rouse up from her comatose state. A mustard plaster, as wide as the two hands, was applied from the foramen magnum to the seventh cervical vertebra, and this, too, failed to rouse her. Mustard plasters were applied to the wrists and ankles, and stimulants administered freely, but without having any effect whatever.

At 10 P. M., Sunday, the patient's condition was as follows: Dorsal decubitus; limbs extended; respiration labored; pulse at wrist not able to be detected; finger nails very livid; she refused to take stimulants and nourishment, and they were poured in her mouth without her knowledge; she remained in this condition until half past eight o'clock Monday morning, when she died quietly.

As I was in the same house with her, I saw her as often as eight or nine times per day.

I heard this morning (September 3d), that her brother said (who also resides in Memphis), that at the depot, where the lady took the cars, the yellow fever was raging to a fearful extent; and he said it was undoubtedly a case of that fever. Prince William and Fauquier counties are all excited over it, and this morning (3d) the people of Manassas would not let the corpse pass through the place; and in Alexandria, the city authorities prohibited the burial of the body there. I suppose the temperature of her body was 105.5° F., but as I did not have a thermometer, cannot say positively. I saw an account of a case reported to the *New York Herald*, from Washington; the symptoms corresponded exactly with those in my case, only not so bad. It was Mrs. Celli, and she was treated by Dr. Caro, an Italian physician, who had seen cases of it before. The fever in my patient was decidedly of the continued form, there being no intermission, and scarcely any remission that I could perceive; it was one of malignant character from the first. Mrs. J. remarked, when she was taken sick, that she had the yellow fever; and Dr. Tebbs has also changed his mind and now says it was that disease.

Original Translations.

Translations from the French and German. By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

Favorable Result from the Use of Enemata of Meat Mixed with Pancreas.—By Dr. Düring (*Deutsche Zeitschr. für Prakt. Med.*, No. 27, 1877, and *Rundschau*, August, 1878). The patient in the case reported was a woman, 48 years of age, who was thought to have abdominal aneurism, and who suffered very greatly with vomiting; indeed, even water was vomited immediately after it was swallowed. Under these circumstances, it was determined to give nourishment by enema, as recommended by Leube. Fifty grammes of meat and sixteen grammes of pancreas were cut up very fine, and then rubbed into a paste with warm water. Half of this was injected in the morning and the other half in the evening, the enema being retained from eight to ten hours. Improvement in the nutrition manifested itself almost immediately, and in three weeks' time the patient was able to take a few teaspoonfuls of milk. The enemata was continued four weeks longer, however, when the ability to retain food in the stomach was regained, and the enemas were then discontinued.

Puncture of the Abdomen in Cirrhosis of the Liver.—Dr. Kuessner in Halle (*Volkmann's Sammlung Klin. Vertrage*, No. 141) recommends tapping in cases of cirrhosis of the liver, not only as a paliative, but as a curative means of treatment, so long as the ascites is only moderate in amount. Up to this time, tapping has only been resorted to as a last resort, although Murchison urged the early performance of the operation in these cases, stating that the results were much better when the ascites were not very great.

The removal of the fluid promotes the circulation, and removes the pressure from the lungs, kidneys and intestines. After the operation, copious diuresis, which was previously scanty, occurs; and when it does not come on of itself, it can be produced by remedies which were powerless before. The action of the intestines will also be promoted. Finally, it should not be forgotten that the process of absorption in the peritoneal cavity is greatly promoted by early tapping. Murchison advises that as soon as the liver is moderately enlarged, and it has been found that improvement does not occur from other measures, tapping be resorted to. Kuessner has pursued this mode of treatment in Naunyn's clinic with excellent results, and he mentions one case in which the ope-

ration had to be practised four times, but the ultimate results were all that could be desired.

The Treatment of Convulsions in Children.—M. Archambault has recently delivered some lectures on the subject of convulsions in children at the Hopital des Enfants Maladies, which are reported in *Le Progrès Médical*, Nos. 29, 30 and 31, 1878. He considers fully the various causes and nature of convulsive attacks in children, and then proceeds to give an account of the various agents which are in use for their prevention or relief. It is needless to reproduce here his views as to the nature of convulsions and their usual course. His views coincide, in the main, with those of West, Smith and other writers on this subject. He urges that in every case the cause should be sought for, and, if possible, removed; and then goes on to consider the means which have been proposed to arrest the convulsions, and to calm the excessive irritability of the spinal cord.

General bleeding he considers very rarely advisable—only in those cases where the pulse is very strong and the face very much congested. Blood should never be drawn from the arm in very young children. M. A. states that he has never practised general blood-letting for convulsions in children—except in cases of nephritis, either primary or consecutive to scarlet fever. In these cases, the bleeding is directed rather against the *cause* of the convulsions than the convulsions themselves. Wet cups placed over the region of the kidneys are advisable under similar circumstances. Leeches are often advisable in robust infants who have evident symptoms of congestion about the head. One or two leeches, according to the age of the child, may be placed back of the ears, and a sufficient quantity of blood withdrawn. It has also been proposed to place the leeches on the malleoli or anus. The withdrawal of blood in some of these ways is generally indicated in cases of acute meningitis or an acute affection of the spinal cord.

Compression of the *carotid* was considered by Trousseau a valuable means of arresting convulsions. M. A. says that he has never had any success with this method himself, nor has he ever seen it act better in the hands of others, but successful results have been published.

Chloroform is certainly the most active agent we possess for allaying the convulsions when they are of the character commonly known as essential—that is, when they are due to the influence of a very slight cause acting on a very impressionable nervous system. It is especially recommended in those cases where the convulsions cannot be traced to any

cerebral affection, to fever or to violent indigestion. It is generally prescribed in those cases where the convulsions are due to the causes just enumerated, but M. Archambault thinks that it would do no harm even in those cases. He states that he has often employed this agent (by inhalation, of course,) in scarlatinal albuminuria to allay the convulsions, while, at the same time, he used other means to remove the cause. Chloroform should always be administered by the physician himself or by some skilled assistant.

Derivatives, M. A. thinks, are of doubtful efficacy, and the stronger ones, such as mustard plasters, especially blisters, may do serious harm by causing nervous irritation. The milder remedies of this class, such as clothes wrung out of warm water, he thinks may sometimes be of service.

The agents thus far mentioned are those used chiefly during the attack in order to cut it short or lessen the violence. There are other remedies, however, which are given in the interval, as well as during the attack, in order to allay the excitability of the nervous system.

Hydrate of chloral may be given during the attack if it can be swallowed, but it is used much more in the intervals in order to prevent the paroxysms. It should be given every three or four hours in syrup in such cases that from 0.30 to 0.60 centigrammes will be taken in the twenty-four hours. This dose is for a child a year old. To older children a little larger quantity can be given. [This dose is smaller than that usually given to children in this country.—W. C. D.]

Bromide of potassium may be given in the intervals of the attacks in the dose of one gramme in the course of twenty-four hours for a child three years old. It should be given in divided doses every 3 or 4 hours. M. A. thinks there is no doubt about the depressing effects of bromide of potassium, and this should be kept in view when it is prescribed.

Oxide of zinc he considers a useful antispasmodic, but inferior to bromide of potassium.

Musk is a popular remedy in England, especially when there is a tendency to spasm of the glottis. It has a marked effect, but is slow in its action. From 0.15 to 0.20, or even 0.50 centigrammes, may be given at a dose to a child four or five years old.

Tincture of amber is an antispasmodic of some value in the dose of from ten to forty drops.

In certain cases, especially of malignant scarlet fever, cold has proved a very valuable remedy. Its *modus operandi* is doubtless by withdrawing heat, which is well known to be a nervous excitant.

Translations from Spanish and French. By CHARLES R. CULLEN, M. D. (P. O., Richmond, Va.), Hanover county, Va.

Hygienic Measures to Diminish the Frequency of Phthisis. Monsieur Lulliesa (according to the *Siglo Medico*), in a paper read before the Academy of Medicine of Paris, considered the great mortality of the disease in Paris—viz., one-fifth—and the means to lessen it. In Lima, Peru, the mortality was one-fourth. As regards sex, the disease was greater in the male than in the female—115 to 100—and twenty-five per cent. greater among those emigrating from the country than among the native born. In regard to location, the disease prevailed less in *high* altitudes, as in the Alps, Pyrennees, Cordilleras, Andes, and the northern portions of Scotland, Feroe Islands, Norway, &c., though there are exceptions to this statement. The influence of climate alone cannot account for the disease in different countries. One fact is certain, that persons leading sedentary occupations, such as shoemakers, tailors, &c., and those living in cellars and damp houses, contract the disease readily. Pure air within and without the lungs is the great preventive to pulmonary consumption. It is the duty alike of the government and of the citizen to form gymnastic schools, agricultural schools, &c., and in all colleges and schools to require more bodily exercise, giving premiums to those excelling; to prevent children working in factories; to change soldiers' quarters to rural districts, and in every way to build up the *bodies* of men, women and children.

Lupus Vulgaris and other Skin Diseases.—In a paper on this subject in the *Revista Medico-Quirurgica*, Buenos Aires, the treatment commenced by Volckman, of Halle, and modified by Hebra, of Vienna, has been carried out in several cases within the last two years. This method consists of rasping the ulcer until blood follows, which is easily checked by ice-cold cloths. Generally, it is best to put the patient under chloroform. Hebra and Volckman affirm that this treatment of lupus, eczema and psoriasis is the most successful.

Treatment of Aneurism by Esmarch's Elastic Bandage.—In seven cases reported in the *Revista Medico Quirurgica*—one femoral and six popliteal—six were successful, without accident—greater success than any previous treatment.

The subjoined notes are taken from the *Revista Medecina y Cirurgica Practicas:*

Psoriasis of twenty-seven years treated by pearls of phosphorus and chrysophanic acid ointment—the latter composed of two drachms of the acid to one of lard. After treatment of one month, the patient was cured.

Asthma.—Several cases are reported successfully treated by iodide of potassium administered by the stomach, and iodide of iron used by inhalations.

In 1860, Dr. Horace Green made public the supposed ingredients of an asthma remedy, composed of polygala, lobelia, camphor and iodide of potassium.

Retention of the Placenta.—In the Maternity Hospital of Buenos Aires, there was a case in which the labor was not an unusual one. After the birth of the child, the hand was introduced to remove the placenta, but its removal was impossible from contraction of the os uteri. As there was no hæmorrhage, antispasmodics were resorted to without avail. Consultation of several surgeons availed nothing. Six days afterwards, the placenta, in a state of putrefaction, was expelled spontaneously. Puerperal fever from the second day was manifest, and death resulted on the seventh day.

Treatment of Nervous Vomiting by Electricity.—In a letter by Drs. Schivardi and Semmola, published in the *Gazetta Medica Italiana*, it is stated that good results have followed the use of electricity in nervous vomiting. A deputy of the Italian Parliament presented a complicated case of dyspepsia with aphonia. The apparatus of Onimus was applied to the larynx and stomach, and as soon as used, the patient could drink a cup of milk, and in five minutes could pronounce distinctly; from that time vomiting has ceased. [This case has been probably the most successful one from the use of electricity on record.—*Translator.*]

Treatment of Cancer by Bromine.—Dr. Novaro, in the *Giornale della Academia de Forino*, speaks of scarification and the cauterization of cancer by bromine, as much more successful than any other treatment. As results, he states that—

1. It produces a temporary, if not a permanent, cure of cancerous tumors, with less loss of substance than the knife or actual cautery.

2. This treatment can be applied to the neck of the uterus better than the knife or the burning iron.

3. That scarification produces but little hæmorrhage.

4. That the peritoneum can be touched without fear of grave inflammation, in which Simon coincides.

Bromide of Potassium Externally as a Caustic and Hæmostatic.—Drs. Ferraud and N. Guénean de Mussy (according to *Le Moniteur Therapeutique*) have used bromide of potassium with glycerin in many diseases to relieve local spasms, pruritus, &c. In twenty days, an epithelioma of the face was cured by a daily application of the medicine in powder. They have likewise obtained good results in chronic ulcers

of the legs, in diseases of the skin, such as chronic eczema, pityriasis and acne, in stomatitis, and in some phagadenic ulcers. In epistaxis, hæmoptysis and menorrhagias, they found it successful after ergot, perchloride of iron and rhatany had failed.

Treatment of Diabetes by Salicin.—Dr. Augustus Müller publishes his treatment of diabetes by salicin and salicylic acid compounds, and concludes:

1. That salicylate of soda can stop the symptoms of diabetes, but the relief is only for a time.
2. That said symptoms disappear much more rapidly with large doses, as 14 to 16 grammes of salicin.
3. That when intoxication is noticed, the medicine should be stopped.
4. That salicylate of soda slightly affects the kidneys, even in large doses.

Analyses, Selections, &c.

Picrate of Ammonia in Whooping Cough and Diphtheria. Dr. Z. T. Dellenbaugh, of Philadelphia, has been experimenting with picrate of ammonia; and in the *Philadelphia Medical Times*, August 31st, 1878, says since a former article on that subject (May 25th) in that journal he has had ten or twelve additional cases of whooping cough, which he has treated with picrate of ammonia with the most satisfactory results. "Indeed, some of the cases were cured in the marvelously short time of from twenty-four to seventy-two hours." In view of this experience, together with some fifteen or twenty cases reported to him within the past few days, Dr. Dellenbaugh thinks he can most safely affirm that, if properly administered, the picrate of ammonia is a specific for the cure of whooping cough. He gives to babies from one-sixteenth to one-twelfth grain; and to children, from one-twelfth to one-eighth grain every three hours. In one case of diphtheria, he has also used picrate of ammonia as a gargle (gr. viij to oj), and by atomization. The solution of picrate produced a yellowish staining of the parts in such a way that he was inclined to believe a destruction of the micrococci ensued, and a speedy cure of the disease was the result. It, of course, will be advisable to detach thick exudations so that the picrate of ammonia solution can come in direct contact with the colonies of spherical bacteria.

Treatment of Bone Felons, Carbuncles and Boils.—Dr. L. J. M. Goss, of Marietta, Ga., in the September number of the *Medical Brief*, directs that when a *bone felon* begins to appear, the

following mixture should be constantly applied by wetting a cloth with it: ℞. Strong tincture of iodine, ʒiij; specific tincture of aconite (Merrell, Thorp & Lloyd's); tincture of arnica, and tincture of cantharides, āā ʒij. M. He has frequently used this mixture both for the relief of pain and the cure of the incipient felon. In some cases, where the felon was two or three days old, he applies a bandage, evenly and moderately tight from the end of the affected finger up to the hand, and then keep the bandage wet with the mixture two or three times daily. If matter is already formed, it causes it to comes to the surface so that it may be let out without cutting down to the bone, as is required when this treatment is not adopted. For carbuncles and boils, he uses: Iodine, two parts; [tincture of] aconite, one part; and [tincture of] arnica, one part. Apply four times a day. This causes the carbuncle or boil to shrink away at once if applied the first day. If, however, the sore is two or three days old, it causes it to shrivel and mature at once.

Treatment of Ununited Fractures by Hypodermic Use of Glacial Acetic Acid.—According to the Boston *Medical and Surgical Journal*, August 15th, 1878, the *Medical Press and Circular* states that Mr. Fitzgerald, of Melbourne, has been highly successful in treating ununited fractures by the hypodermic injection of glacial acetic acid (five to ten minims) between the ends of the bone. At first, there is a sharp pain. Any cartilaginous thickening, if present, is soon resolved and re-absorbed, and union is rapid, splints, being applied.

Book Notices, &c.

Prescription Writing, designed for the Use of Medical Students who have never Studied Latin. By FREDERIC HENRY GERRISH, M. D., Professor of Materia Medica and Therapeutices in the Medical School of Maine, etc. Second Edition. Portland, Me.: Loring, Short & Harmon. 1878. By mail. 16mo. Pp. 51. Cloth.

The title of this little book tells what it is. The book may be read with advantage by most *practitioners* as well, as, according to our experience, there are few papers that come to us for publication, that we do not have to correct the prescription form. The druggist in many instances would also benefit himself by studying the book, as more than once have we seen *ad* changed to *adde*, and such like errors. The book is faulty in that it contains nothing about the decimal system of weights and measures. We are just about to bid adieu to the old system, and to welcome the new. No book serves the purpose of to-day that does not adopt the decimal system.

A Manual of Operative Surgery. By LEWIS A. STIMSON, B. A., (Yale), M. D., Surgeon to the Presbyterian Hospital, Professor of Pathological Anatomy in the Medical Faculty of the University of the City of New York. With 332 Illustrations. Philadelphia: Henry C. Lea. 1878. Cloth. 12mo. Pp. 447. (For sale by Messrs. West, Johnston & Co., Richmond.)

This is by no means an exhaustive work—many important and improved ope-

rations not even being referred to, as, for instance, Dr. Greensville Dowell's operations for hernia, club-foot operations, etc.; but so far as it goes, is a very accurate and useful publication. The drawings add materially to the interest and instruction. The book is commended to practitioners of surgery.

Fownes' Manual of Chemistry Theoretical and Practical. (Revised and Corrected by HENRY WATTS, A. B., F. R. S., Editor of the "Journal of the Chemical Society," etc.) A New American, from the 12th English Edition. Edited by ROBERT BRIDGES, M. D., Professor of Chemistry in the Philadelphia College of Pharmacy. With 177 Illustrations. Philadelphia: Henry C. Lea. 1878. Cloth. 12mo. Pp. 1027. (For sale by Messrs. West, Johnston & Co., Richmond.)

So rapid have been the advances in Chemistry that the last edition of this work was published in two volumes. But by adopting a small, clear type, the American edition—which contains a few additions—continues to be one volume, though considerably more bulky than former editions. We cannot say anything about Fownes' Chemistry that is unknown to the profession at large. Its reputation is established in every English speaking community, and is the text book in nearly every school and College in the country. Nothing more need be said in its commendation. The publisher has done his part handsomely.

Editorial.

National Quarantine Report.—*Office Surgeon General, U. S. M. H. S., Washington,* September 28th, 1878. Abstracts of Sanitary Reports received during the past week under the National Quarantine Act.

New Orleans.—During week ended yesterday evening there were 926 cases of yellow fever and 332 deaths. For the last twenty-four hours there were 124 cases and 51 deaths. Total cases 8,464, deaths 2,700.

South Pass, La.—There had occurred to the 26th instant 42 cases of yellow fever and 2 deaths.

Morgan City, La.—For the week ended yesterday evening there were 79 cases of yellow fever and 12 deaths. Total cases 145, deaths 30.

Baton Rouge, La.—From September 20th to 9 A. M., the 26th, there were 221 cases of yellow fever and 7 deaths. Total cases 893, deaths, 46.

Plaquemine, La.—During the week ended September 15th there were 16 deaths from yellow fever. 130 cases were still under treatment. The first case occurred August 1st. Total cases to September 15th 305, deaths 53.

Pass Christian, Miss.—12 cases of yellow fever and 2 deaths occurred during the week ended yesterday evening. Total cases 33, deaths 3.

Biloxi, Miss.—There were 5 cases of yellow fever and 1 death during the last week. Total cases 25, deaths 8.

Mississippi City, Miss.—8 cases of yellow and 1 death occurred last week.

Ocean Springs, Miss.—During the week ended yesterday evening

9 cases of yellow fever occurred and 5 deaths. Total cases 60, deaths 17.

Bay St. Louis, Miss.—There were 53 cases of yellow fever and 15 deaths during the week ended yesterday evening. Total cases 78, deaths 20.

Water Valley, Miss.—During the eight days ended September 21, there were 18 cases of yellow fever and 5 deaths. Total cases to that date 21, deaths 7.

Vicksburg, Miss.—58 deaths from yellow fever during the week ended yesterday evening, 14 of which occurred in the last twenty-four hours. Total deaths to date 779. Assistant Surgeon Keyes reports "epidemic over, save a few sporadic cases."

Greenville, Miss.—Out of a remaining population of four hundred and fifty, 227 have died of yellow fever. Sixty persons are now sick with the fever, mostly convalescent, and "material for new cases exhausted."

Grenada, Miss.—Since last report there have been 10 new cases of yellow fever and 3 deaths. Total deaths to yesterday evening 274.

Port Gibson, Miss—Total cases of yellow fever to last evening 620. Total deaths 110.

Memphis, Tenn.—Deaths from yellow fever for the week ended September 26th 297. Total deaths 2,428.

Brownsville, Tenn.—During the week ended yesterday evening 67 cases of yellow fever and 22 deaths occurred. Total cases 197, deaths 66.

St. Louis, Mo.—During the past week four deaths from yellow fever at quarantine. None in the city. Only two cases now under treatment at quarantine.

Cairo, Ill.—During the last week there were two cases of yellow fever, one of them a refugee. Total cases 14, and six deaths.

Louisville, Ky.—18 cases and 10 deaths from yellow fever occurred during the week ended September 27th. Nine cases and five deaths were among the inhabitants living within two or three squares of the Louisville and Nashville depot, where some unclaimed baggage of refugees had been stored. The first case among the inhabitants occurred September 23d. Total cases 95, deaths 36.

Cincinnati, Ohio.—No new cases nor deaths from yellow fever within the last week.

Gallipolis, Ohio.—Since last report to September 24th, three new cases of yellow fever and five deaths have occurred. Two of the new cases are not traceable to the steamer "Porter." Total number of cases 31, total deaths, including the six on the "Porter," 17.

Chattanooga, Tenn.—A refugee was taken with yellow fever August 21st, and another September 6th. The first case among the inhabitants occurred September 18th. Total cases to last evening 41, deaths 26.

Mobile, Ala.—From September 20th to the evening of the 24th, there were reported to the Board of Health as yellow fever, 11 cases and 7 deaths.

Key West, Florida.—No new cases of yellow fever the past week.

One refugee died of yellow fever in *Dayton, Ohio*, September 21st.

One case of yellow fever occurred in *Philadelphia* and one in *Richmond* during the same week, both were refugees from the South.

Yellow fever prevails in a number of small towns in Louisiana, Mississippi, Tennessee and Kentucky, from which definite information of the number of cases and deaths has not been received. The fever is reported as spreading to the plantations.

Havana, Cuba.—For the week ended September 21st there were 31 deaths from yellow fever, and 9 from small-pox.

Rio de Janerio.—From 14 to 22 deaths from small-pox occur daily. No other contagious disease prevails.

Morocco, Africa.—Advices from Fez and Mequines to August 24, are to the effect that the cholera is decreasing. Small-pox prevails in the ports of Magador and Saffi. In the latter port about 15 deaths occur daily from that disease.

Calcutta.—Ten deaths from cholera and 17 from small-pox, week ended July 27th.

Bombay.—Thirty-two deaths from cholera, week ended Aug. 6th.

JNO. M. WOODWORTH,
Surgeon General U. S. Marine Hospital Service.

Doctors, Victims of Yellow Fever.—We copy the subjoined list from the *Med. & Surg. Reporter*, September 21st. Each of our subscribers will, no doubt, recognize among the names some friend or acquaintance. Several of them were distinguished medical men; but some who have died at their post of duty are "to fame unknown." It brings sadness to our heart that several of these physicians were among our warmest personal friends. It seems to us, however, that in a few of the instances, there was a reckless exposure to the dread destroyer—neither having ever before had this disease in their own persons, nor ever having seen it. Willingness to face death in all its horrors, without discretion, amounts to recklessness: *Grenada, Miss.*—Drs. Milton, Hawkins, W. W. Hall, Hughes, Gillespie, E. J. Hughes and May. *Memphis, Tenn.*—Drs. F. Sarner, J. C. Rogers, Hopson, K. T. Watson, Laske, W. R. Hodges, T. M. Dickinson, R. B. Williams, Mead (a volunteer from Kentucky), J. B. Woodward, McGregor (of Tipton county), T. L. Bond (of Brownsville), Menees (of Nashville), J. R. Renner (of Indianapolis, Ind.), John Erskine (Health Officer), J. E. Penn, John B. Hicks and J. S. Bankson. *Vicksburg, Miss.*—Drs. Booth, P. F. Whitehead, Potts, and Bichfeldt (of Chattanooga). *New Orleans, La.*—Drs. J. G. Byrne and Herndon. *Canton, Miss.*—Drs. Natham McGee, M. J. McKee and A. F. Cage. *Holly Springs, Miss.*—Dr. F. M. Fennell. *Hickman, Ky.*—Dr. J. D. Woodward. In addition, the *Louisville Medical News*, of September 21, reports the following: Drs. B. W. Avant, Woolfolk, Chas. Bonner, Lehman and Blanton.

Treatment of Yellow Fever, To be Used By Those Unable To Procure Medical Aid Without Delay.—Dr. F. Peyre Porcher, Associate Physician in City Hospital, Charleston, S. C., who has

had long and frequent experience of this fever, addresses a letter to medical officers of boards of health, which should be widely published. He believes that *many* would recover—if they would begin, at the *very inception* of the attack—with cold sponging (or with towels) of the head, hands and arms with *ice water*, thoroughly applied and repeated frequently as the temperature rises, and for the first one, two or three days, if necessary. Give at the *beginning* fifteen to twenty-five grains of calomel, with the same of quinine; follow, in three or four hours, with a dose of salts. Then *no more medicine*, save a little acetate of potash (four or five grains) with ⅛ to 1-12 of a grain of morphine, in a little water, used two or three times a day to quiet irritation. Place the feet in hot *mustard water*, and cover the abdomen with mustard plasters at the beginning, to be repeated. Use care with regard to food. If the *fever* is thus restrained and kept so by these means, in *fair* cases subsequent bad symptoms can hardly occur. There will be no black vomit if the fever of the first few hours is kept within bounds, for *then* all the mischief is *done*.

Opposition to Land Quarantine Against Yellow Fever.—At the regular monthly meeting of the Medical Society of South Carolina, held September 2, 1878, the following resolutions offered by Dr. R. A. Kinloch were adopted and ordered to be published:

Resolved, 1. That we witness with surprise and mortification the attempt on the part of the citizens of many sections of our country to institute a futile and oppressive system of *land quarantine* against yellow fever.

2. That this system, originating, as we believe, with a panic stricken people, and supported by the teachings of theorists, is inconsistent with the most generally received views as to the origin and propagation of the disease in question, and opposed to the humanity of a civilized age.

3. That we respectfully urge upon the profession, throughout the length and breadth of our land, the necessity of opposing this false and inhuman doctrine by every means in their power, even, if necessary, by an earnest appeal for legislative enactments on the subject.

4. That we respectfully, but most urgently, advise our fellow-citizens of those localities where the invasion of the disease may seem imminent, to expend all their efforts rather in the removal of those causes, which, in accordance with the well established facts of modern science, are *known to be potent in localizing epidemic disease*.

5. That we extend our most heartfelt sympathy to our fellow-citizens, who are now feeling the dire effects of the illegal and inhumane enactments referred to, and pledge ourselves to do what we can in our own State, to aid in their present deliverance and to provide for their future security.

W. H. Bailey, M. D.,
Secretary Med. Soc. S. C.

Charleston, S. C.

[We most cordially endorse the above resolutions.—Ed.]

Dr. J. Marion Sims, we regret to learn from a private letter just received from him, has unexpectedly been detained in Paris, and will not, therefore, attend the session of the Medical Society of Virginia. He will remain in Paris another year to complete his work on "Diseases of Women."

In connection with the above, we are glad to learn through the *Clinic* that Dr. Sims' visit to Vienna in July was properly appreciated by the profession of the city. Bulletins of his engagements and operations were regularly published in the papers and Journals of the city. The dexterity and elegance of his manipulations attracted universal applause. We are glad to learn that his health continues good, and that his zeal in the cause of ameliorating the suffering of afflicted women is unabated—his daily advances in the department of gynæcology manifesting constant concern and almost continuous study.

Valentine's Meat Juice.—We were greatly interested a few evenings since in the account given by Mr. Valentine of his visit to Europe, and of his conversation with distinguished medical authorities. Some of them could scarcely believe that it contains the albumen of the beef in an uncoagulated form until the authorities referred to themselves recognized its presence by due tests. It has proved eminently useful during the convalescence from yellow fever, and it is a valuable remedy in sea sickness. Our experience with the several best known preparations of beef extract, etc., enables us to say unhesitatingly that, in value, Valentines Meat Juice has no rival.

Medical Society of Virginia.—The circular Announcement has been issued. The session, it is expected, will be more largely attended than any previous meeting—both by Fellows and visitors. The Recording Secretary omitted to mention in the circular that those who may come over the Petersburg (and Weldon) Railroad should get from conductors on the trains "Return Certificates" which are to be countersigned by the Secretary of the Society. Special rates have also been made with the best hotels in the city, for which see advertising pages of this issue. Whoever proposes to visit this session from other States will please communicate at once the fact to the Recording Secretary, Dr. Landon B. Edwards, Richmond, Va.

Honor to Dr. Lewis A. Sayre.—At the annual meeting of the British Medical Association held at Bath, England, August 6, 1878, Dr. Falconer, President, in the chair, the following eminent physicians were elected Honorary members viz.: Dr. Theodor Billroth, Vienna; Dr. Charcot, Paris; Dr. Esmarch, Kiel, Dr. O. Leibreich, Berlin; Dr. Ludwig, Leipsic; M. Pasteur, Paris; and Dr. Lewis A. Sayre, New York; We are delighted to see that our distinguished countryman is so appreciated abroad. Surely no man in the profession was ever more entitled to respect, for his unfaltering devotion to it, and his contributions to science. The Association honors itself by adding Dr. Sayre to its members.

Messrs William Wood & Co., the well known publishers of New York city, propose commencing in January, 1879, the monthly republication of the most important works being from time to time issued from the English press at the remarkably low price of *one dollar* per volume—whatever may be the number of pages of the book. It is promised that the book shall be gotten up in good style, as to paper, type and binding. Upon what business principle they can afford to do so, we do not understand; but that is none of our business, nor does it concern the purchaser. The following are among the series promised for 1879: Hilton on *Rest and Pain*, Ellis' *Manual of Diseases of Children*, Tait's *Diseases of Women, etc.* We advise each of our subscribers to enclose a three cent stamp to Messrs Wood & Co. for a circular giving a fuller statement than our space will at present allow.

Dr. Wm. C. Dabney, of Charlottesville, Va., who has been furnishing the *Monthly* with excellent translations for the past several years, and who has contributed valuable articles to the pages of many medical journals, starts, October 6th, 1878, on a trip around the world—to be absent six or eight months or longer.

A Prize of $500.—The Alumni Associates of the New York College of Physicians and Surgeons offer a prize of $500 for the best essay on any medical question. The essay must be based on original investigations.—*Pacific Medical and Surgical Journal*, August, 1878.

Dr. Hunter McGuire, of this city, is expected to return from his European trip by the 5th of October.

Although we have added eight pages to this number, and reduced the type in some parts, we must lay over until the next issue some matter prepared for this. The duties which will press the editor duriug the month of October, may compel him to lessen the size of the November number eight pages.

Obituary Record.

Dr. C. L. McInnis, we regret to learn through his postmaster, died at his home at Vernal, Greene county, Miss., June 10th, 1878.

Dr. Peyton Grymes, of Orange county, Va., died at his home, August 23d, 1878, in his 88th year. He conducted for many years the largest practice of any physician in the county.

Dr. Washington L. Atlee, of Philadelphia, the world-famed ovariotomist, died September 7th.

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RICHMOND, NOVEMBER, 1878.

Original Communications.

ART. I.—**Rhizopods (Asthmatos Ciliaris) a Cause of Disease.**
By EPHRAIM CUTTER, M. D., Boston.

The general practitioner is very familiar with a kind of epidemic influenza that runs through whole families and neighborhoods. It is not asserted that all catarrhs and influenzas are caused by rhizopods (root-footed protoplasmic animals), but it is desired to submit some positive evidence that *sometimes* they have been caused by *them;* that when the rhizopods are destroyed, either by self-limitation or by parasiticides, the influenzas disappear (when uncomplicated). It has seemed to me that Dr. Salisbury has in this discovery given us an example of pure science in medicine, as I regard the discovery of a *cause* of a disease, its *removal*, and thereby the *cure*, as an exhibition of the highest skill in our profession.

First Testimony.—This is the original paper published by the discoverer in Hallier's *Zeitschrift.* Jena, January, 1873, page 7, as follows:

"*Infusorial Catarrh and Asthma.*—By J. H. SALISBURY, B. N. S., A. M., M. D.

"This is purely a parasitic disease, arising from a peculiar animalcule organism (asthmatos ciliaris, Salisb.) armed upon one side with cilia.

"This organism assumes a great variety of shapes and sizes during the different phases of its existence. In the

same case, by watching carefully its development and metamorphoses under the microscope, it may be seen to transform itself into all the different forms represented in figures 1 to 17. The most usual shape seems to be spherical or oval, as seen in figures 1 to 8. These frequently send out a long proboscis, at the end of which is a dilated and elongated cilium, as represented at 14, 15, 16 and 17. This proboscis may be in the centre of the mass of cilia, as at 15 and 16, or at one side, as at 14 and 17. It may be drawn in, leaving a nipple-like elevation, as at 10, or may disappear entirely, leaving the organism oval (8) or spherical (6).

FIG. 1.

ASTHMATOS CILIARIS. (S.)

Photo-engraving from drawing executed by Mrs. Jerome Thompson, the celebrated head painter, of New York.

"The proboscis often only partially disappears, or is only partially drawn in, while a constriction occurs in the form, as represented at 13 and 14. It may be simply a large dilated cilium, as at 17 and 18, or the cell walls may go out forming a more or less sharp protuberance, as at 15; or the walls may go still farther out forming a more or less fusiform organism, as at 16. The cilia are simple extensions of the cell-wall, are hollow, and communicate with the cell cavity, and can be dilated and elongated at the pleasure of the animal. The parasite consists of a simple sac, armed upon one side with cilia, and enclosing one or more large nuclei, and many smaller

germules of various sizes, as seen in the figures. The young are developed within the parent cell, and, when mature, are discharged at the end of the organism opposite the cilia, as seen at 18. The parent becomes quite large before delivery, and as the young one is discharged, the parent cell becomes skrunken and shrivelled for a time. The aperture soon, however, closes; the wrinkled, shrivelled condition of the sac walls disappear, and the parent moves about again—fresh, plump and lively as ever. The cilia are in active motion during the greater part of the life existence of the animal, and produce a most aggravating irritation of the mucous surfaces they infest. The young organisms (1 to 6) have a rolling, rocking, vibrating motion, from side to side, making about one-third of a revolution on the transverse axis at each oscillation. The more mature cells either vibrate slightly or have a tremulous motion, their cilia not moving at all, as at 5, but vibrate in different directions.

"*Symptoms.*—After once obtaining a foothold on the mucous surfaces of the respiratory tract, they multiply rapidly. At first, they attack the mucous surfaces of the eye and nose, producing sensitiveness of the parts, which results in a free secretion of tears, and thin mucus, uncomfortable, and often intense paroxysms of sneezing. The organisms gradually travel from the nasal surfaces down into the fauces, larynx, trachea, and larger and smaller bronchi. As soon as they reach the fauces, there is a burning heat and irritation in the parts that excite severe coughing. This tendency to cough constantly increases as they, and the irritation gradually travel farther and farther down the air-passages. When the larger bronchi are reached, a heavy, hot, feverish pain is felt in the parts they invade, accompanied by more or less flushes of heat and fever. These symptoms ordinarily and very naturally suggest to the physician "catarrhal fever," under which head the disease is usually placed, especially when occurring during the winter and spring. This stage is accompanied by most intense paroxysms of coughing, which are frequently long and most painful, especially in the morning.

"If the parasite makes its way into the smaller bronchi and air cells, asthmatic symptoms of a distressing character often supervene, and the sufferings, already almost unendurable, are much intensified.

"The disease may continue a long time if the parasite is not destroyed, though after a period, longer or shorter, according to temperament and constitution and state of the

health of the patient, the irritation assumes a chronic form, and the sufferings gradually grow less and less until they disappear. In irritable, sensitive constitutions, the irritation in the fauces, larynx, pharynx and bronchi becomes so great that the parts spasmodically close in attempts to swallow or to inhale air charged with anything which excites the inflamed parts.

"I have no doubt, from what I have seen, but that death may have occasionally occurred in the acute stage of this disease, from spasms of the pharynx and epiglottis.*

"*Secretions.*—The cells of mucus first secreted from the surfaces invaded are large and round, not differing materially from those in health. Soon, however, they begin to be shrunken and jagged, and in a few days many of them assume the appearance and character of pus cells (muco-pus). The amount of secretion discharged from the air-passages at any one time is small; yet the presence of this small quantity creates so much irritation that it is very difficult, during the acute stage of the attack, to keep, for any length of time, from coughing and sneezing. The secretion is thin, clear and watery at first, and small in quantity, soon becoming thicker and more turbid. The cough is short and somewhat painful, and the invaded surfaces feel irritated and hot. The cough raises but a small quantity of sputa at each time, and relieves the irritation and itching but for a few moments.

"Whenever the parasites are developing rapidly on the velum palati, most intense paroxysms of coughing are excited, which are long and persistent, painful, and sometimes are accompanied by severe spasms of the epiglottis (whooping cough). Often an irritation and itching will be felt on one side of the throat only, exciting constant desire to cough. In such cases, the irritation will always be on the side on which the nasal passage is closed. Under such circumstances, inhaling remedies through the mouth very often fails to check the coughing for but a few moments only. By clearing the closed nasal passage, and inhaling through it, the coughing and irritation is soon checked. The reason for this is, that the parasites are developing rapidly on the posterior surface of the wing of the palate, on the side of the nasal passage, and are constantly working down into the larynx and pharynx on that side.

"*Asthmatic Symptoms.*—When the parasites reach the smaller bronchi and air-cells, especially in irritable and sen-

*Probably it is the cause of whooping cough occurring for the second time.—E. C.

sitive constitutions, asthmatic symptoms begin to show themselves, and often become distressing and almost unendurable. Any excitement in the circulation aggravates the symptoms. The evening and night air always increase the sufferings.

"*Season of Invasion.*—This disease is more common from July to November in this climate than at any other season of the year, though it may occur at any season. When it occurs during the latter part of the summer and in early autumn, it is usually called "hay fever" or "hay asthma," and sometimes "malarial asthma," of which class it is one *form* only. During the winter, it is frequently called "catarrhal fever," and with very good reason, as the disease is always accompanied with fever and chilly sensations. The face is usually flushed, head hot and pulse rapid, especially during the acute stage. How long the disease would continue if left to itself I do not know, as I have never let a case run long without the use of remedies to destroy the cause.*

"*Contagion.*—This disease belongs to those that may be transmitted from one individual to another, though the transmission is not very readily accomplished. In working very closely over about sixty cases of the disease, examining the sputa under the microscope for many hours together in each instance, and in several severe attacks devoting days to the examination, I have taken the disease only six times myself, and in two instances, have transmitted it to my family. I have usually begun to feel symptoms of the presence of the parasite in from four to eight days after commencing to treat a case. In all of my late cases, I should state that I have taken the precaution to inhale a solution of crystallized carbolic acid ℥j to ⊙j of water every two or three hours, and to take twenty drops of tinctura ferri chloridi in a tumbler of water two hours after each meal. This course has lately protected me from taking the disease.†

"*Name of Disease.*—I have given this disease the name that stands at the head of this paper. It has been given after carefully studying for over *six years*, with great interest, the symptoms and peculiarities of the complaint. During that time, I have treated about sixty cases of "infusorial catarrh" and asthma (now, January, 1878, about 1,000), and made over one hundred drawings of the parasite, eighteen of which are given in the accompanying plate.‡

*The writer found himself to get well without treatment in a week or ten days.—E. C.

†It is almost as contagious as measles in my experience.—E. C.

‡Naming always belongs to the discoverer. Some seem to forget this.—E. C.

"*Treatment.*—All means ordinarily used for colds and coughs are worse than useless in this disease. While they tend to get the system out of order, they do not retard the development and progress of the cause. The only remedies that do any good are such as either destroy or retard the growth and reproductiveness of the parasite. Fortunately, we have many agents belonging to this class, among which are carbolic acid, tinctura ferri chloridi, sulphate of quinia, sulphuric acid, sulphurous acid, nitric acid, hydrochloric acid, &c., all of which remedies should be in solution with sufficient water, so that they can be inhaled without producing irritation. The inhalation should be made freely, and as often as every hour or two. In addition to inhaling, I give two grains of sulphate of quinia every four hours, and twenty drops tinctura ferri chloridi in a glass of water, morning, noon and evening. It is surprising how much a single thorough inhalation will relieve a suffering patient. If the sputa is examined before the first inhalation, and then again after it, a remarkable difference will be observed in the condition of the parasites. Before inhalation, they are all in active motion; after it, if thoroughly done, they will nearly all be found dead or motionless. Occasionally one will be seen that has either not been reached at all, or has not received a sufficient dose to destroy life. As they develop in the follicles as well as on the plain surfaces of the air-passages, it will be seen that frequent inhalations must be resorted to, or the parasites will soon be as numerous as ever. By keeping up the inhaling at short intervals and inhaling thoroughly, the parasites have no chance to get very numerous, and soon the follicles become permeated with the inhaled materials and the cause is entirely destroyed. The sufferings of the patient are much relieved, or almost disappear in a short time after entering thoroughly on the treatment. In fact, they are almost entirely gone in a few minutes after taking the first inhalation. This shows conclusively that the parasite is the cause of the disease.*

"*Asthmatos Ciliaris* (Salisbury).—I have taken the liberty to give this little parasite a name which, perhaps, a more extended acquaintance may deprive it of. *It may be found to be one of the many forms, that are already described, that inhabit stagnant and running waters*, and under certain conditions fermenting organic matters. The name here suggested will, however, answer *present purposes.* The generic title is in-

*This the writer unqualifiedly endorses.—E. C.

dicative of one form of disease it causes, while its specific name is suggested from the cilia with which it is armed. The figures from 1 to 18 represent the different forms and shapes the parasite assumes during the different phases of its existence. They are magnified from 300–500 diameters. Fig. 18 represents the mode in which the parasite reproduces and discharges its young. The young animal grows within the parent cell, and when mature, is discharged at the posterior part of the organism. In figures 7, 8, 14, 15, 16 and 17, are seen the young cells inside the parent cell. After the young is discharged, the parent soon begins to assume a more plump appearance, the opening closes up, the wrinkled, shrivelled condition passes away, the cilia become active, and the organism soon assumes the freshness, activity and vigor it had previous to parturition."

Second Testimony.—1877, *June* 20, the writer, while visiting Dr. Salisbury at Cleveland, Ohio, expressed a desire to see the parasite just described, if possible. This day Dr. Salisbury stated that he felt some of the symptoms, and that he might have the disease. He spoke doubtfully, and would not be positive until after a physical exploration should reveal the actual presence of the animal. He then spat up some glairy, tenacious mucus from his pharynx, in which small, whitish patches appeared. Some of these were deposited upon a glass slide and covered with a suitable cover. The object was placed under a microscope *two-inch eye-piece* and *one-fifth objective* of *superlative excellence.* It was a Spencer. Apartment lighted by one window open to the Northeast.

The *first* observation showed a dead protoplasm, globar, with motionless feet or roots on one part, like figure 5.

The *second* observation of another specimen of expectoration showed several young ones of globar shape, with beautiful cilia, whose length equalled the diameter of the body of the animals. One displayed a marked rocking movement of rotation on its own centre of one-third of a circle, with a graceful waving of the cilia.

Another specimen was observed where the wave and rotation were less, but the ciliary movement was by a longer sweep to the right and left. They were of the size of a common mucus corpuscle. A few specimens only were in the

sputa examined. Sometimes, the doctor said, the field is crowded with them.

June 21.—An examination of the sputa from Dr. S's throat showed a dead parasite as large as a dozen of those of yesterday's examination. It was distended with many young protoplasms. The writer then studied the field and detected five other specimens of the small size in a single field of the microscope. They all were actively swaying to and fro with graceful ciliary movements that continued for a long time. I asked Dr. Salisbury if he thought this disease would be found in the East. The reply was in the affirmative. "It is very common everywhere, and *it is only necessary to look it up.*"

After having thus unmistakably demonstrated the presence of the parasite in his oral excretions, the Doctor then partook freely of salicin, carbolic acid and quinine. He was very much relieved of his hoarseness, cough, suffused eyes and discomfort, and only the next day (*June* 22), on examination, a few parasites were found, but none alive.

Third Testimony.—Mr. F. N. Daykin, a medical student in Dr. Salisbury's office, thus wrote:

"CLEVELAND, O., *Sept.* 1, 1877. *Dr. Cutter: Dear Sir,*—Yours of July 8th was received and should have been answered, but was mislaid while I was studying 'infusorial catarrh,' an account of which I will give you. On *Sunday* morning (no date) there was a slight irritation of the mucous membrane of my nose, but it could not be distinguished from a very mild cold, which I supposed it was. The irritation increased constantly, and on *Monday* morning the eyes also were inflamed and sensitive to light. At 10 A. M., used carbolic acid solution with a nasal douche, which gave relief for half an hour. In the afternoon, the throat became sore and a headache came on, both of which continued through the night. On *Tuesday* morning, the headache continued, the eyes were very sensitive and watery, and the inflammation of the nose and throat was worse. After using salt and water as a douche, I came over to the office and discovered the infusoria under the microscope. From that time, I used carbolic acid solution about once an hour until evening, and felt much relieved. *Wednesday* morning my eyes were natural, throat only slightly sore, and nose much better. Carbolic solution continued until evening, when the irritation was hardly noticeable. By *Thursday* morning, the

infusoria had reached the bronchial tubes and caused some coughing, but no expectoration. Nose and throat but slightly sore. Inhaled carbolic acid solution with atomizer, which removed all irritation, but I began to feel languid and tired. *Friday* continued carbolic acid and noticed some improvement, and by *Saturday* morning the irritation was all gone, though it was three or four days before the tired feeling ceased and I felt naturally.

"The solution used was about ℈ss crystals of carbolic acid to the pint of water, and ℥ss of glycerin—warm—as it feels pleasantly in the douche. For the atomizer, ℈j acid to ⊙j of water.

"I had a nice time looking at the animal, and saw all the forms, but would have liked to have photographed it also.

Yours truly, F. H. Daykin."

Fourth Testimony—1877, *Oct.* 16.—The writer, wife, two sons, babe and servants had influenza colds. They were not severe, but seemed very much like any common cold. The babe coughed croupily at night. Examined Mrs. C's sputa, and found micrococcus spores and mycelial filaments of an unknown fungus, but no protoplasmic animal. In *my own sputa*, I found *seven or eight specimens*, *all young* and motionless. Cilia well marked. Also noticed some ciliated epithelial cells from the bronchi. These were essentially different, morphologically, from the protoplasms which were globar and provided with cilia, which were in length equal to the diameter of the body, and the former were fusiform with short cilia, not equal in length to one-eighth of that of the cell. Size of the young about the size of a mucous cell.

P. M.—I visited Boston, and subjected some young, freshly discharged catarrhal secretion to Dr. G. B. Harriman's Tolles one-sixth inch, fourth system objective, and a two-inch eye-piece on a first-class stand; direct illumination from a kerosene flame. This truly superb objective most beautifully displayed three specimens of the asthmatos. The cilia were nearly twice as long as the body diameter, fasciculate, motionless, but most exquisitely defined. It was a better demonstration as to clearness and definition than those exhibited by Salisbury himself. Dr. Harriman witnessed the specimens and their motions.

Oct. 17, I found three more.

Oct. 18, *Prof. Paulus F. Reinsch, of Erlangen, Germany*, a distinguished algologist, *made drawings* of two specimens, freshly taken from *my nasal* excretions. *Also, Dr. J. M. Moore*, of *Woburn, Mass.*, writes that he had examined the *sputa I had left for him, and had found one well-marked specimen.*

The writer examined the nasal secretion from his babe this day, and *found a specimen.*

Without any treatment in his own case, the symptoms wore off in a week's time. This was disappointing, as the writer desired to show the animal to as many of the local professional brethren as possible, and encouraged their full development. The influenza was very light, and the organisms in every case were dead and motionless.

Fifth Testimony—1877, *Dec. 30th.*—My only daughter died from perforation of the appendix cæci caused by an orange seed. During this terrible visitation, the whole family were all, more or less, affected with coughs and colds in the head. Attention was so much absorbed by the event and its sequelæ, in which the little sufferer formed the chief part, that the microscopical inquiries were forgotten, and it was only on Jan. 16th, 1878, that, having read substantially the above at a meeting of the Middlesex East District Medical Society, held the same evening at Lexington, Mass., on my return home I examined the discharges from my own nostrils (I was apparently laboring under a heavy cold), and found over *thirty* specimens in perfection. They were of all sizes, from a swollen individual that contained at least five young, down to the ordinary small-sized specimens. They were nearly all actively employed in rocking motions. Many presented the bright germinal spots, such as are seen in fresh water rotifers. There were at least *four* parents, with from five to two young cells inside. *General symptoms* were of heat, aching and smarting of the nose; clear, transparent mucus dripping from the nostrils; violent sneezing; eyes injected, smarting and watery; eyeballs sensitive; lungs and larynx irritated; appetite good.

Jan. 17*th.*—Made a long study of the specimens that were very abundant and lively in my nasal secretions. Some were in division—partial and nearly complete. Some had cilia

in length *thrice* the diameter of the body. Mucous cells numerous, jagged and irregular, as Dr. Salisbury describes. Some of these appearances must have been due to amœboid movements common to protoplasmic and young cells. Exhibited to Dr. Harriman several fresh specimens. In order to study and demonstrate the animal, no medicine is taken. Propose to photograph them to-morrow.

Jan. 19.—Went to photograph the parasite. When all was ready, I could not find a typical specimen. However, an actinophrys sol from the fresh Pond (Cambridge) water was successfully photographed. Prof. Reinsch returned home with me for the purpose of spending some time in searching out the parasite quietly. My nasal excretions were examined, with the result of finding only a few specimens.

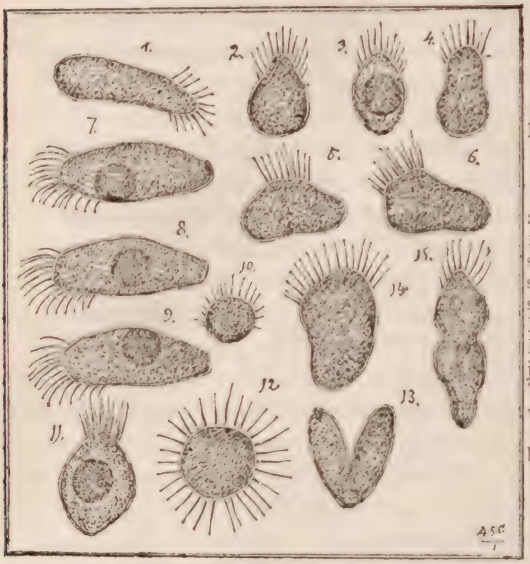
Mr. Sheridan Hatfield, of 137 Oxford street, Cambridge, saying that he had one of the severest colds he ever knew, and that "he felt *mean* all over," submitted his catarrhal secretion to examination. It was full of living forms of the animals, and most of them were in motion. A large one was studied by Dr. Reinsch and myself. Cilia very active; form oblong; one young individual inside; at first, it was seen near the head; then it moved to the middle of the parent. It approximated the side. It was seen to escape from the parent body and to be born a new individual. Side by side with the examination of the catarrhal secretion, Cochitnate water was examined, one-fifth inch objective, two-inch eyepiece; Amici's stand. The very first observation showed plagiophrys with a few cilia at one point of the circumference, and with a very lively, active locomotion, of almost the same size, and form as that found in the human secretion.

A most beautiful new actinophrys was also found in the water—circular, transparent, double-outlined—periphery covered with short, tangential cilia in waving motions. An actinophrys destitute of coloring matter was also seen in the water; cilia about the whole periphery.

In the *catarrhal secretion*, two *perfect* circular forms with cilia radiating from the whole circumference, in active motion, were distinctly seen. Prof. Reinsch said that these were absolutely, *morphologically*, identical with the actino-

phrys. But he was not prepared to say they were the same. "At any rate, it is a rhizopod (root-footed)."

FIG. 2.



ASTHMATOS CILIARIS. Hatfield's case. Drawn by Prof. Reinsch from life.

1. Mature specimen. 2–4. Young do. 5, 6, 11, 14, 15. More mature specimens. 13. In division. 7. Young cell inside near processes. 8. Do. moved to center. 9. Do. moved to upper part just before escaping. 10. The escaped young individual with moving cilia. 12. A specimen resembling Actinophrys sol.

Jan. 19.—Prof. Reinsch, who was laboring under a severe "cold," found the rhizopoda in his own catarrhal excretions caught from the studying of the specimens. 12 noon—I visited Dr. Holt, 59 Essex street, Cambridgeport, and tried to show him the parasite from my own secretions with his microscope. Notwithstanding its excellence, I failed to find them.

2:30 P. M.—At the Girls' High School, Boston, where I went proposing to photograph the parasite, I found twelve specimens in my secretions. This shows that in demonstrating such subtle organisms, one should employ the means (light and microscopes) that are familiar to him, and that a failure to demonstrate is *no proof of the absence* of a *specimen*. A coal oil flame is the best illuminating means. Some fusiform, ciliated, epithelial cells were occasionally found in the catarrhal excretion.

Prof. Reinsch called my attention to Sir William Archer's publication on rhizopoda in the *London Microscopical Quar-*

terly, July, 1876, and April, July and October, 1877, as furnishing good descriptions of this class of animals.

Jan. 20.—By this time, I began to feel sick all over, and that my self-experience and experiment were carried far enough. Accordingly, I made a saturated solution of salicylic acid in borax water and drank freely of it through the day. This produced a mitigation of the symptoms. At night, on going to bed, I was seized with a violent dry choking cough, so severe that I was absolutely obliged to arise and sit up. I then inhaled the salicylic acid solution by means of a steam atomizer *freely* for three minutes. Instantly the cough ceased and did not recur in its violent form again. There was experienced a feeling of relief throughout the whole respiratory tract, and I slept soundly all night.

Jan. 22—A. M.—The babe had a running from the nose of clear, viscid, glairy mucus. It was blown upon a handkerchief. This specimen was fuller of the asthmatos than any other I have ever seen. They were active and alive, while some were dead and motionless.

Amelia Wilson, a servant girl in the house, had a severe cold, but I could find *no* specimens in her nasal excretion. Also, three neighbors in the next house, all having an influenza cold, failed to give me specimens, or rather I failed to find them in their excretions. Ephraim Cutter, Jr., furnished a few.

P. M.—Examined the *Mystic water* and found several Actinophryina—one of which was evidently a *sol*—one where the pseudopodia (false feet) occupied two-thirds of its circumference, and another where the pseudopodia occupied one-third of the periphery. The latter almost exactly resembled the animals of the secretion. They are not found anywhere else in nature, and in our present state of knowledge it is asked, Do they come from the water?

23*d.*—Mr. Hatfield said his cough was rather dry, violent, in paroxysms, severe. Found the parasites less abundant in his secretions. 9 A. M.—Found several specimens in Miss Amelia Wilson's bronchial secretion—the one I failed to find them in yesterday. She complained of coughing all night,

and feeling sore in her chest therefrom. Perfect immediate relief was obtained by inhaling atomized salicylic acid solution.

Found no parasites in my own secretion. It would seem that they are most plenty in the thin, glairy secretion, and *not* in the thick, muco-purulent secretion. Also, that they travel over and leave different parts of the respiratory tract, from the nostrils downwards, and that *not finding* them is no evidence of their absence. 1:15 P. M.—After dinner, I coughed up a deep bronchial secretion, and found a specimen therein.

Jan. 24th.—Mrs. Smyth, a neighbor, furnished some specimens in her nasal secretions. She had the influenza. She was one of three neighbors examined before without success.

25th.—Found a specimen in my wife's catarrhal excretion; also, three large ones in my son John's. None in my own to-day. This completed the whole family except one servant.

26th.—Discovered three specimens in Mrs. Cutter's secretion, all dead. All getting much better and suffering none.

Sixth Testimony.—Dr. Reinsch states that he observed this parasite in his own catarrhal secretions about Dec. 1, 1877, when he was suffering from a severe cold. Never saw it in Germany, though he has made a special study of his nasal excretions.

Seventh Testimony.—Dr. Salisbury writes, under date of January 23, 1878: "This is a disease that prevails more in winter than in summer, though it occurs frequently in summer. I have treated now over 1,000 cases of the disease. It is prevailing here at present. I recovered from an attack about three weeks ago. Usually have it two or three times a year, and take it from examining the sputa of patients under the microscope."

There are more observations of the writer's that must be reserved.

Remarks.—It is hoped that the above will suffice to show that there has been a protoplasmic (*proto*, first; *plasm*, mould, form or substance) animal found in the catarrhal secretions of persons suffering from colds, influenza, &c. It is now necessary to allude to its probable connection with the rhizopoda

found in the drinking water that is derived from the waters of the great lakes and ponds. Allow the introduction of a description of this strange order of animal life, as general access to these authorities is limited, taken from the *Micrographic Dictionary*, 1875, page 46.

"Sub-animal Kingdom V.—*Protozoa*—This term was proposed by Siebold to designate a group of invertebrate animals characterized by the absence of distinct organs—the form and simple organization being reduced to a cell.

Class I—Infusoria.

Class II—Rhizopoda (root-footed). Badly defined, because the presence of pseudopodia (false feet), which is the grand characteristic, is noticed in minute beings that have other structural characteristics.

Order 1.—Lobosa, Amœba Arcella.

Order 2.—*Radiolaria*—Including, according to Carpenter, the family of the *actinophryina characters*. Body usually rounded, contained in a shell or shelless—giving off radiate or non-agglutinating pseudopodia, either from the entire surface or from parts only—spicules and spines absent.

Genera Actinophrys—Pseudopodia arising from all parts of the surface.

Trichodiscus—Pseudopodia arising from a zone near the circumference.

Plagrophrys—Pseudopodia arising from one side or segment of circumference.

Actinophrys—Marine and Aquatic.—The movements of the pseudopodia are very slow usually; contains contractile vesicles. The circulation of granules requires great attention and a high power to render it visible.

Actinophrys sol. spherical colorless, whitish tentacles radiating from all parts of the body. One or two contractile vesicles strongly projecting on the surface, diameter $\frac{1}{4300}$ to $\frac{1}{12000}$ inch aquatic.

Actinophrys Marina—As A. sol, but marine; rather smaller, and movements of tentacles more rapid.

The manner in which these animals feed is curious. Any part of the surface of the body may be converted into a temporary stomach. When an infusorium or a

minute alga comes into contact with one of the tentacles, it generally becomes adherent. The tentacle with the prey then slowly shortens, and the surrounding tentacles apply themselves upon it, bending their points around the captive so that it gradually becomes enclosed on all sides. In this way the prey is brought to the surface of the body. The spot at the surface of the body, upon which the captured organism is lying, slowly retracts and forms at first a shallow depression, which gradually becomes deeper, its edges coalesce, and thus a cavity closed on all sides is formed, in which it remains for a certain time, and becomes digestive. If there be any indigestible residue, a passage for its exit is formed, and it is expelled by further contractions of the substance of the body, and in the same or a different direction from that in which it entered, the canal and aperture entirely disappearing."

Plagiophrys—Characters.—Non-loricated and with numerous pseudopodia which arise from one particular point of the surface of the body, and which are fasciculate. Granular streaming slow on the pseudopodia. Archer has detected a nucleus in a form greatly resembling plagiophrys sphærica, fresh water. British and German (*Bibl. Clap. Zach. Etudes*, 453—Archer, *Quarterly Micrographic Journal*, 1871, p. 146.)

By observing the narration, it will be noticed that the actinophryina almost exactly resemble the asthmatos of Salisbury. They are found in abundance in drinking water derived from the ponds and lakes at all seasons; also in salt water. Probably thousands, if not millions, are swallowed daily by the drinkers of such waters. According to our present state of knowledge, such animals are no where found in nature, except in the waters, dung, and the human secretions as just described. The slow movements of the pseudopodia are not always so slow as described in the systemic work—judging from a specimen lately seen. Moreover, when it is remembered that this department has been but little studied, and even the authorities differ among themselves, it will not answer to force any point—only to state convictions and the grounds of them. It is enough now to have presented the evidence of the presence

of this rhizopoda, or, if you prefer, this infusorium *in human secretions.*

"*Infusoria—Characters.*—Microscopic animals not furnished with either vessels or nerves, but exhibiting internal spherical cavities; motion effected by means of cilia or variable processes, formed of the substance of the body—true legs being absent. Body composed of protein compounds, soluble in solution of potash. * * It is impossible to determine as yet the exact classificatory position of the infusoria, or to limit them as a class satisfactorily. * * * But * * they must remain as a group which is unsatisfactorily distinguished from the algæ, rhizopoda and spongida." "Hæckel makes a new sub-kingdom called protista, which is intermediate between the animal and vegetable kingdom. In this, many of the infusoria as well as fungi and rhizopoda are placed. Dujardin arranges the infusoria into sections and families, of which section 1 embraces family 1, Amœbæ—naked, creeping, incessantly changing their form. Family 2, Rhizopoda. Family 3, Actinophryina."—*Micrographic Dictionary.*

Müller classes the rhizopoda as infusoria. It will be sometime before this will be settled. The name Dr. Salisbury has conferred is not overthrown, though the writer prefers the rhizopoda as being more expressive than infusoria.

It is to be hoped that Mr. Archer or Dr. Leidy will throw light upon this subject. Meantime, the practical benefits of this discovery must not be lost because of an uncertain name. How many people live on grains, the botanical classification and names of which are all unknown! It should be remembered that the field of labor is nigh at hand to the student.

The following communications explain themselves:

"Boston, 35 Essex St., Jan. 23, 1878.

Dr. E. Cutter, *Cambridge, Mass.*

Dear Sir,—I have written to my friend, Mr. Wm. Archer, of Dublin, Ireland, about the organisms found in catarrhal excreta, very likely (analagous) to some fresh water rhizopoda detected by him. These bodies are not in any genetical connection with the ciliated epithelial cells, are morphologically and biologically different from the latter, and therefore true parasites. Whether these newly detected forms have some genetical connection with the first detected and described forms or not is a question. And another question is this, Are

these animals new forms in genetical connection with these forms of rhizopoda found in the lake and pond drinking water? From a morphological point of view, we can presume the connection. There are some other newer papers on rhizopoda in Siebold's & Kolliker's *Zeitschrift für Vergleicheads Anatomie and Zoologie.*

Very truly yours, P. F. REINSCH."

"CLEVELAND, OHIO, Jan. 23, 1878.

MY DEAR DR. CUTTER:

The cells lining the air passages are always more or less fusiform. The cilia are arranged in a circular manner around the free flattened end of the cell. They arise from a thickened ridge in the cell-wall. The cell discharges the cells it organizes from the end to which the cilia are attached. In the asthmatos, the organisms are either spherical or ovoid usually, and the cilia are arranged, not in a row, but all over the head end of the cell. Usually, one of them is much larger than the rest. The animal has the power of enlarging and elongating any one of the cilia. The young are discharged from the end of the cell opposite the cilia. * * * I hope that you may be able to trace its source. Please move carefully so as not to commit yourself to any mistakes. Remember the disease is infectious and passes from one to another. Often it also becomes what might appear endemic. If it were common in our drinking water, all the people using the water would come down with the disease, as soon as the organism made its appearance in the water. This is not true. Hence, move carefully until you are doubly sure you are right and have the identical asthmatos. * * * *

Truly yours, J. H. SALISBURY."

This private letter shows the careful tone and mild manner of Dr. Salisbury in dealing with an observer like the writer.

Causes may be said to be actual and potential in their energies. A keg of gun-powder is an example of potential energy. A shower of rocks, after its explosion in blasting, exhibits its actual kinetic energy. The gun-powder may exist without actual kinetic energy. So it is with causes of disease. No doubt they potentially exist all about us, but there must be something to make them actual. It is not desired to force matters. I am satisfied with having presented the evidence in relation to this and the probable method of its

solution, so that it may be made known as information that has a practical bearing upon the theory and practice of medicine. Is it too much to ask that some of the many microscopes in our land be diverted awhile from the æsthetical study of Nobert's lines and diatoms, and turned on to investigations like the present, which will furnish as much if not more æsthetical pleasure, and, at the same time, be utilitarian? Is not the microscope used too much as an end? It is only a *means* to an end. Not so much a matter of import as to who owns the best instrument, but it is of moment who uses the most skill with his microscope.

The search for the actinophryina (?) in the human excretions and in the drinking waters will, I am sure, be a most fascinating, delightful and useful pursuit. It will afford the purest pleasure, and if there is anything that can make hard working or hard waiting doctors' lives joyous, it deserves to be known.

Dr. Salisbury suggests planting the actinophrys upon the nasal mucous membrane, and if the influenza is produced, the links of connection between the rhizopoas of the water and the excretion would be complete.

Resume.—1. Testimony has been submitted that there is a parasitic animal, of a protozoic type, that is found in the secretions of the respiratory tract of persons suffering from influenza, colds, catarrhs and asthmas. Dr. Salisbury, the discoverer, has observed over 1,000 cases. Mr. Daykin reports one case. Dr. Reinsch reports two cases in one individual. The writer has observed *about* 100 cases.

2. It is supposed to be the cause of the disease named because, (a), It is infectious; (b), Parasiticides kill the animals; (c), With this killing, comes instant relief to the symptoms of the disease; (d), Because it is found, when it has been carefully looked for, in this class of cases, and not in other catarrhs.

[It is not claimed that *all* influenzæ, colds, &c., are caused by the animal in question.]

3. The writer tries to connect the protozoa with the actinophryina found in drinking water, because, (a), Dr. Salisbury suggested the idea; (b), The actinophryina are mor-

phologically identical; (c), Similar forms have nowhere else been found in nature, except in salt water; (d), Thousands are daily swallowed in the drinking water; (e), At the present time they are abundant in the water, and the disease abounds.

4. The writer calls for an extended examination of this subject, because, (a), It is a useful, inspiring work for a country that probably has the most and best microscopes in the world; (b), It is one of simple management, as drinking waters, catarrhs and coal oil illuminations are present all over the land; (c), Because the matter can only be *perfectly* decided by numerous demonstrations and investigations, as opinions not based on facts are valueless here; (d), And because the subject itself is of far greater moment than those who have been privileged to give in their evidence.

In conclusion, the writer thanks Dr. Salisbury for the information he has given freely and courteously—"The latchet of whose shoes I am not worthy to unloose."

Postscript.—Any one who can detect with his instrument the cilia of the bronchial epithelium (man), is provided with means of observing this rhizopoda. Such an instrument is furnished by the Boston Optical Works, called the Clinical Microscope, for $25.00. It is simple, compact, has the Society screw, and is intended for use at the bedside. It was gotten up by the writer, and has been used by him in microphotography with powers as high as the 1-50th inch objective. It is not a patented article.

Tremont Temple.

A Curious Case.—A little child at Brighton has been killed by accidentally swallowing a squeaking air-bladder. It appears that the toy slipped through the glottis with the bladder downwards and the quill mouth-piece upwards, so that, with every inspiration, the bladder became more or less inflated, and thus prevented the entrance of air to the lungs, producing death by suffocation. The case must be unique. *Ex.—Md. Med. Jour.*

ART. II.—**Electricity in its Relations to Medicine and Surgery.**
Lecture I. Delivered by A. D. ROCKWELL, A. M., M. D., of New York, Electro-Therapeutist to the N. Y. State Woman's Hospital, etc.

The subject of electricity in its relation to disease, upon which I am to speak to you, is sufficiently extensive to occupy far more time than is allowed us. I shall therefore content myself with dealing briefly with those points that are more especially practical, hoping that what I shall say and demonstrate may awaken an interest in an important, though neglected, field.

In one sense, there is no department of medicine in which there is greater activity than in electro-therapy. If we may believe the aphorism, however, of one of the truest philosophers of the century, "there is nothing more terrible than activity without insight;" and it is this very activity that prevails, guided by no intelligent insight into the laws which govern and the principles which underlie electro-therapeutics, that has been its rock of offence and stone of stumbling.

Electricity, although the legitimate property of the educated physician alone, draws to it, more than any other therapeutic means, the folly, ignorance and cupidity of the land; and in every effort to wrest it from the hands of the charlatans, we are simply repeating the history of almost every special department of medicine. Much has indeed already been accomplished, and in all probability its future status is secured; for it rests on foundations too broad to be easily overthrown. But it has grown and is still growing in spite of the opposition of many, who would relegate its use to ignorant attendants, or to the patients themselves, or who, with limited knowledge of the subject, and less experience in its use, assert that their efforts and results compass all that there is to electro-therapeutics.

The three main divisions of the subject are—1st, Electro-physics; 2d, Electro-physiology; and 3d, Electro-therapeutics—the latter being the science that treats of the study of electricity in its relations to disease. Electro-therapeutics, therefore, includes both electro-medicine and electro-surgery.

Before proceeding to consider the subject of electro-physics,

in so far as it is necessary to a clear understanding of electro-therapeutics, it may, perhaps, be not amiss to glance briefly at the history of electro-therapeutics. Like so many other departments of medicine, its beginnings are shrouded in obscurity. Its real history, however, may be divided into three eras: Era of Franklinic Electricity; era of Galvanization; and era of Faradization.

In the *Franklinic era*, only franklinic electricity was used—galvanic and faradic electricity not yet having been discovered. The methods employed were by the electric bath, and electrization by sparks and shocks from the Leyden jar. There were many reports of cures by eminent members of the profession; but in a memoir presented by Maduyt in 1773, we find a most concise summing up of what experience has since taught us to be a most accurate estimate of the therapeutic action of electricity. He reports it to be a "remedy of vast and varied powers—possessing a most powerful influence over nutrition, equalizing the circulation, materially affecting the pulse, the perspiration and the secretions, and surprisingly efficacious in the treatment, not only of paralysis, but also of many other conditions, such as constipation and œdema."

The *era of Galvanization* begins with the discovery of animal electricity by Galvani in 1786; but it was not until Volta invented the voltaic pile in 1800 that the medical use of the galvanic current was attended with any degree of satisfaction. Imperfect as it was, it was vastly superior to the metallic plates which had been employed since Galvani's discovery.

The discovery of *Inductive Electricity*, however, by Faraday, in 1831, changed the whole course of electro-therapeutics, since the electric machines, immediately constructed, were more convenient and reliable than the old voltaic piles.

From this time electricity began to be more extensively used—I should, perhaps, say abused—and by the laity more than by the profession. It is only within the last ten or twelve years (if we except the efforts of Remak and Duchenne) that any approach to systematic investigation has been attempted, and an agent powerful for good, but capable of vast injury,

given a place in the armamentarium of the profession. Up to the time when inductive electricity was discovered, and for some time thereafter, it was used without any recognized method, and, as a rule, without any very clear ideas of the indications for its use. Gradually, however, as experiences began to be systematized and compared, distinct methods of electrization were introduced, embracing all applications of both faradic and galvanic electricity.

These methods are: Localized faradization, localized galvanization, general faradization and central galvanization—all of which I propose to speak of more in detail further on.

It is hardly necessary for me to assert that no one can be proficient in any department of science, without at the same time having a fair understanding of its foundation principles. Now, in this presentation of the subject, it will be impossible for me to explain all even of the leading principles of electro-physics, much less to refer to all their practical bearings on electro-physiology and electro-therapeutics. These can, in detail, be gleaned from various treatises upon the subject, and at your leisure. I shall attempt simply to present certain of the most prominent and important features of the subject, sufficient for a ready understanding of what is to follow; and although some of you may be more or less proficient in this part of our topic, you will bear with me if I, for the time, regard my hearers as tyros and speak accordingly.

Electricity is a generic term, under which is included three general forms—viz., magnetism; statical or frictional, or franklinic electricity; and current or voltaic, or dynamical electricity. With magnetism, we have very little concern. Artificial and natural magnets were at one time supposed to exert curative influences in the relief of pain, &c., and there have been various reports in its favor; but it is quite evident that whatever benefit followed its use, was due quite as much to the influences of the imagination as to anything else. Statical or frictional electricity, as generated by the old-fashioned cylinder machine, you are all probably familiar with. It has been more used in hospitals than in private practice; and although it is of unquestioned utility, yet it is generally admitted, that whatever can be done with it, can be accom-

plished by dynamic electricity, while the latter has, also, a far wider range of usefulness. Static electricity, therefore, we shall not consider further.

The third form of electricity, viz., current or dynamic electricity, will mainly engage our attention, since it occupies the chief place in electro-medicine and surgery. Under this head we have—1st. That form called galvanism or voltaic electricity—the result of chemical action; and 2d. Induced electricity, electro-magnetism or magneto-electricity—the result of current or magnetic induction. You are to understand that these varieties, just indicated, are called dynamical or current electricity—signifying electricity in motion, to distinguish it from static electricity—signifying the electrical condition of bodies, in which electricity remains insulated or stationary. And yet, under certain circumstances, dynamic electricity becomes, as it were, statical; for if the poles of a series of galvanic batteries are insulated, they manifest, before the current begins, the electric tension of a frictional machine.

Much confusion has arisen, and still exists, in regard to the different manifestations of current, because of the loose nomenclature that prevails. There is an indiscriminate use of the terms induced, constant, galvanic, direct, secondary, etc., serving only to mystify and mislead. The subject becomes very much simplified if we bear in mind that the third or dynamical kind of electricity, with which we have principally to deal, manifests itself, as I have before stated, in two forms of currents—viz., the galvanic, so-called after Galvani, the discoverer of chemical action; and, second, the faradic, after Faraday, the discoverer of the principle of induction. Recollect, also, that the synonyms of the term galvanic are as follows—viz., constant, primary, voltaic and direct; the synonyms of the faradic being the induced, secondary, interrupted, electro-magnetic and magneto-electric—the latter synonym being used when the current is induced through a permanent magnet, instead of through chemical action. It is, I suppose, vain to hope that the two simple terms galvanic and faradic will be adopted in all references to the subject,

and if, therefore, the synonyms above enumerated are remembered, much annoyance will be obviated.

I have emphasized this subject of nomenclature, but I think not unnecessarily; for I constantly find the greatest amount of misconception existing among those who have batteries, and who are supposed even to be somewhat informed.

The history and nomenclature having been thus briefly disposed of, it remains for me to make as clear as possible the chemical action of the simple galvanic cell, in which is generated the galvanic current, and then to explain to you the principle of induction, through which we have the faradic current.

As you are well aware, in the formation of a single galvanic circle there are usually two metals and a liquid. The strength of the current generated depends mainly upon the strength of the solution, and the combination of elements immersed in it. It is well, therefore, that you should understand that the various elements that are used in batteries, have a natural electro-chemical arrangement—as, for example, zinc, copper, silver, platinum, gold, carbon. Each substance in this abbreviated series is positive to any substance below it, and negative to any one above it. Thus, copper, when associated in a galvanic pair in the proper fluid, with any one of the elements that follow it, generates positive electricity; but when associated with the element preceding it, generates negative electricity.

The more electro-negative any one of the elements in this series is to a given element, the more intense will be the current generated, when they are united in a galvanic pair. In other words, the further removed any two elements are from each other in this series, the greater is the tension of current when they are combined in a single cell. I have before you one of the simplest, but at the same time one of the most efficient, cells for practical purposes. It is called Smee's cell, and is composed of two plates of zinc and one of corrugated platinum. When immersed in a solution of sulphuric acid, what takes place? In common language, simply this—an electrical disturbance is observed over all the surface of the

zinc covered by the fluid. Positive electricity is generated at the zinc element and flows through the liquid to the platinum.*

The electricity is generated wholly by the chemical action of the acid upon the zinc, and other things being equal, the quantity of electricity set in motion will be proportional to the extent of zinc surface exposed to the acid.

Right here, there is one important practical point which I will mention, for a knowledge of it will enable you to tell in any galvanic battery which is the positive and which the negative pole. The zinc is said to generate positive electricity; and yet it is always the negative pole, from the fact that, in the liquid, the positive electricity of the zinc flows towards the platinum, and the negative electricity of the platinum towards the zinc, and thence through the circuit outside the cells. Because for the sake of convenience, we speak of electricity as a current flowing in certain directions, it is not to be supposed that it is a real fluid.

This old Franklinic hypothesis has long since been abandoned. We may suppose that as light consists of undulations of ether, so we may believe that electricity consists of movements of a different kind—is, in short, simply a mode of motion.

At this point, there are two terms—*quantity* and *tension*—that should be explained. I shall refer to them in the simplest language, for a thorough scientific explanation would necessitate a consideration of Ohm's law, which, although of great importance, cannot be elucidated here. *Tension*—a *result* of electro-motive force—is that quality of electricity by which it overcomes resistance. The tension of a battery depends upon the number of its cells; while *quantity*, signifying that amount of electricity which passes through a circuit in a given time, depends upon the size of the elements in the cells. The action of the liquid upon the surfaces of the zincs, causes the same electrical disturbances in each cell. The liquid becomes positive, while the zinc above the liquid becomes negative. The positive electricity of the liquid is

*The chemical changes that take place in the battery will be considered when we come to speak of that part of electro-surgery termed electrolysis.

conducted through the platinum plate (Smee's cell) to the negative zinc of the next cup, where it becomes exactly neutralized. We obtain, therefore, no more quantity from 100 cells than from a single cell, but a greatly increased tension. The relative meaning of these terms quantity and tension may be best understood by an illustration. A gallon of water heated to 100° has a much greater quantity of heat than a pint heated to 200°; but the heat of the latter is much more intense.

Faradic electricity, the second division of current electricity, is the current of induction.

The current from a simple galvanic circle, passing through a coil of wire, induces, simply by proximity, a secondary current in a second coil of wire—differing altogether in its physiological effects from the galvanic current.

These induced or secondary currents, again, have the power to induce currents in other coils of wire called tertiary currents, and so on for a long series. The strength of the current decreases, however, the higher they ascend; hence, batteries constructed for therapeutical purposes have no more than the two coils. By putting a bar of soft iron, or a bundle of iron wires, within the primary coil, the current becomes very much strengthened, and in this way, the momentary action of the current, as it is closed, causes the iron bar or wires to become magnetic. As the current opens, this magnetism disappears—its disappearance inducing a current in the same direction as the disappearing primary current. For the uses of therapeutics, therefore, this iron core is a very convenient means for modifying the current. Instead of an iron core, however, the machines that are now constructed have their entire coil covered by a cylinder of tin. When this tube covers the helix, an indefinite number of branch currents are induced in it, that interfere with the main current, and weaken it. In proportion as this is withdrawn, the induction of branch currents, and the consequent interference with the main current, grow less.

The wire of a primary coil is made quite large, because it is a law of electro-physics, that the thicker the wire the better is electricity conducted, and the more readily is magnet-

ism excited in the iron core. The secondary coil is, however, made of very thin wire and of great length, so that as many turns as possible may be brought within the influence of the core and of the primary coil, and thus produce a secondary current. As with the galvanic or inducing current, the electro-motive force of the battery is proportionate to the number of cells, so with the induced or secondary current, the electro-motive force of the coil is proportionate to the number of turns or coils in it.

There are two forms of faradic batteries, varying materially in construction and in physiological action. These are termed, respectively, the single or continuous, and the double or separate coil machines. In the first named, there is but one wire, varying, however, in thickness in different parts of its course. This wire is tapped at different points, and the quality of the current generated, depends upon the length and thickness of the coil included in the circuit. In the separate coil machine, the helix is composed of two entirely separate and distinct wires, the inner or inducing coil of wire being thicker than the outer coil. Now, it is not a matter of indifference in what way a helix is constructed. Every modification of a conductor in length, thickness or constitution, more or less modifies the quality as well as strength of the current; and, therefore, the current proceeding from these different forms of helices, as well as from the different portions of the continuous coil helix, vary considerably in their action.

It is difficult, and perhaps impossible, to arrive at any satisfactory conclusion in regard to the relative therapeutic effects of the continuous and separate coil machines through physiological or theoretical considerations alone. Clinical experience serves us best here; and guided by it, I have found that the current proceeding from the single or continuous coil is to be preferred in the treatment of nervous and hysterical patients, and for the production of those tonic effects that are aimed at in the administration of general faradization. On the other hand, in many cases of anæsthesia and loss of electro-muscular contractility and impaired virility, the current from the separate coil answers a better purpose.

ART. III.—**The Nature and Treatment of Fever.** By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

In his recent admirable work, entitled *The Practitioner's Handbook of Treatment*, Dr. Milner Fothergill uses the following language:

"It is perfectly obvious that in taking the temperature the medical man must do something more than merely note the rise of the register. In addition to the mere body-heat, there are the equally important matters of the condition of the skin, and the amount of perspiration, telling of the amount of heat-loss going on, to be observed. While taking note of the actual temperature, it is necessary to apply the trained intelligence, and to have a clear comprehension of the how and the why of the febrile state, as to the relative amounts of increased heat-production or diminished heat-loss, and to calculate exactly the factors of the febrile state, and to select the remedial measures accordingly."

There is nothing truer than this. How many physicians, even among those who use the thermometer systematically (and it is greatly to be regretted that it is not in more general use), lose sight entirely of the mode of production of and the manner in which the body-heat is regulated, and endeavor to find some remedy which will reduce the temperature in all cases and under all circumstances. Yet, how futile is such a search! How useless are salicylate of soda and aconite when the body of a fever patient is bathed in a profuse perspiration; and how *worse* than useless is alcohol when the heart's action is so strong and violent as to make the arteries feel as if they would burst? And yet, day after day and week after week, is this indiscriminate use of drugs carried on by many practitioners of medicine without a thought of the result.

I propose, in the present paper, to study the essential nature of fever (hyperpyrexia) and the manner in which it is regulated, and then the different remedies and the circumstances under which they are applicable.

But two theories have been advanced with respect to the nature of fever: "One that it is due to excessive oxidation going on in the various tissues of the body; the other, that

it is caused by the *retention*, and not the excessive production of heat. Both of these views are, doubtless, in a measure, correct, though the first is more generally true than the second.

That excessive oxidation and consequently excessive heat formation does occur in the majority of cases of fever, is shown in a number of ways. As a rule, the amount of urea and carbonic acid excreted is materially increased in fever; and a still stronger proof of excessive heat-production has been furnished by Liebermeister and Kernig, who found, in their well-known experiments, that fever patients, when placed in a bath, caused a much greater rise in the temperature of the water than persons in health did under similar circumstances.

In the majority of cases, however, the heat-loss is lessened to some extent, and in some cases this is, perhaps, the most active and important factor of the two. The late Dr. F. E. Anstie reported* two cases of typhoid fever in which the amount of urea† excreted was diminished instead of increased, and it is highly probable that the hyperpyrexia in these cases was due to diminished heat-loss. He remarks on the fact, that in both of these cases the strength was maintained throughout the whole course of the disease.

Winternitz,‡ while fully in accord with those who consider the hyperpyrexia due to chemical action going on in the system, states that there can be no doubt that the diminished discharge of heat is largely instrumental in causing an elevation of temperature; and he considers the coldness of the hands and feet, and of the surface of the body, generally, in the early stages of a fever, a proof that there is a diminution in the amount of heat discharged. The view that diminished heat-loss plays a conspicuous part in fever, has been entertained by other good authorities, especially by Traube.

On the other hand, there are not wanting those who hold

**Practitioner*, March, 1874.

†Buss (*Ueber Wesen und Behandl. des Fiebers*, p. 37) says that the amount of urea discharged is not a fair index of the amount of oxidation, which can only be rightly measured by the discharge of carbonic acid.

‡*Ueber Wesen und Behandlung des Fiebers—Wiener Klinik*, Nos. 3 and 9, 1873.

that the chief, if not the sole, cause of hyperpyrexia, is an increase in oxidation. Dr. H. C. Wood, Jr.,* says that, "had not so great an authority as Traube espoused the theory that the elevation of temperature in the febrile state is due to increased retention rather than to increased production of heat, it would seem scarcely worth while to prove that the chemical movements of the fever patient are vastly above normal;" and he then alludes to the experiments of Leibermeister and Kernig, to which we have previously referred, in proof of his opinion. Bristowe, and, indeed, nearly all recent writers, consider excessive oxidation the most important factor in the production of hyperpyrexia.

Granting, then, that chemical changes cause the development of heat in the body, the question arises, Are these changes directly connected with the blood supply, and, therefore, under the influence of the vaso-motor system of nerves; or is there a special nerve-centre and system of peripheral nerves which preside over and regulate the chemical changes occurring in the body? Here, too, we find a wide difference of opinion. Until comparatively recently, the vaso-motor nerves have been considered the only ones which in any way influence the *production of* heat, and no one doubts now that, in a measure at least,† *they regulate* the heat of the body. We shall consider this point more fully hereafter.

In 1870, Heidenhain found that when a sensitive nerve was irritated, there was a fall of temperature and an increase in the blood pressure. Now this increase in the blood pressure could only be caused in one of two ways—namely, by an increase in the force of the heart's action, or a contraction of the peripheral blood-vessels. At first sight, these experiments of Heidenhain would seem to indicate that the fall of temperature was due to the contraction of the blood-vessels, and the diminished oxidation which would result therefrom; and it is probable that the fall *was in part* due to this fact.

**Toner Lecture*, No. IV, on *Nature and Mechanism of Fever*, pp. 10 and 11.

†I purposely use the expression, "in a measure at least," for the remarkable antagonism which has been found to exist between belladonna and jaborandi, *when both cause* dilation of the capillaries, shows that something more than a simple flow of blood to the skin is necessary to produce perspiration. See paper on "*Sweat-Centres*," by Dr. Isaac Ott in *Journal of Physiology*, Vol. I, Nos. 2 and 3.

But the experiments of Heidenhain were repeated soon after by Dr. H. C. Wood, Jr., and the conclusions at which he arrived were, that there is, "in the pons or above it, a nerve-centre, whose function it is to inhibit or repress the chemical movements of the body—*i. e.*, the production of animal heat."* It is needless to go over the ground which led Dr. Wood to such a conclusion. Suffice it to say that Owsjannikow and Dittmar† had previously determined that the upper limit of the vaso-motor centre was about 1.2 millimetres below the corpora quadrigemina, and that Dr. Wood found that the temperature of the body was still lowered when the cord was divided above the point and a sensitive nerve irritated, thus showing that the depression of temperature was not due to vaso-motor influence. The view entertained by Wood, however, does not seem to have met with very general acceptance, and little or no reference has been made to it by other and more recent writers on the subject.

A number of investigations have been made to determine the condition of the blood-vessels of the skin in fever, and the majority of those who have studied this point remark on the influences of the vaso-motor nerves. Prof. Jacobson,‡ of Berlin, says "the changes of temperature of the skin give us a correct insight into the fullness of its blood-vessels, and this depends on the vaso-motor nervous system." He goes on to say, however, that as the result of a series of investigations made by O. Schuelein and himself in Frerich's clinic, he has been led to the conclusion that there is no connection whatever between the temperature of the skin and that of the axilla and mouth. It was found, also, that while, at times, there was a rise of temperature over a certain part of the surface of the body, there was a fall in the parts immediately adjacent. The experiments of Franz Riegel,‖ which should be mentioned in this connection, show that, "as well by local as by general withdrawal of heat, the temperature sank in the interior;" and he suggests, as a means of reducing tem-

*4th *Toner Lecture*, p. 34.
†*Ludwig's Arbiten*, VIII, 103.
‡*Deutsche Med. Wochenscrift*, 1875, No. 14.
‖*Virchow's Archiv.*, LIX, 114.

perature, the *local* abstraction of heat by placing bags of ice on the chest and abdomen.

The views which we have thus far presented as to the nature of fever are all neurotic. But there has been a large class of pathologists who have considered fever a hæmic disorder, and Billroth and Heuter and their school, it will be remembered, have advocated the view (not original with them, it is true), that hyperpyrexia is due to the presence of animalculæ (monads) in the blood.*

Murri† claims to have produced a very decided hyperpyrexia in animals by the injection of septic matter after section of the cord below both the chief vaso-motor and the hypothetical heat centre, and consequently when the nervous influence could be fairly eliminated—thus proving that sometimes, at least, an elevation of temperature may be caused by the direct action of a ferment (?) on the blood.

But the rapidity and force of the circulation has an unquestionable influence on the heat *production*. It is a general law, to which there are but few exceptions, that the greater the blood supply, the greater the functional activity of a part.

Rosenthal divides the body into a heat-forming area and a heat-losing area with an intermediate area between; and it is a well established fact that most of the body heat is formed in the glands and muscles.‡ "It has been proved," says Kuss,§ "that the production of carbonic acid in the blood is not limited to the pulmonary surface, but occurs in the whole organism throughout the current of the circulation, and more particularly in the capillary network." Now, this being the case, it is evident that if the capillaries are contracted, a smaller amount of blood will pass through them, and less oxygen will be brought in contact with the tissues, and, of course, the result will be lessened oxidation. This, then, is *one* way in which the heat production may be influenced by the circulation, but it is not the only one. We have seen

*I have not had access to Hunter's *Chirurgie* where his views are elaborately stated, and have only seen a review of them by Dr. Alfred Genzmer, of Halle, in the *Centralblatt für Chirurgie*, No. 13, 1875.

†*Centralblatt* No. 1, 1875.

‡Buss (*op. cit.*, p. 7 *et seq.*) states that nearly all the body heat is developed in the muscles—the glands taking but a slight part therein.

§*Manual of Physiology*, p. 320.

that the body may be divided into a heat-producing and a heat-forming area, the former being the glands and muscles and the latter the skin. Now, if the capillary vessels of the skin be dilated and filled with blood, it would necessitate the withdrawal of a certain amount of blood from the glands and muscles, and this would lessen the oxidation in these parts.

There is yet another way in which the rapidity of the circulation may influence heat-production. The size of the capillaries being the same, and the proportion between the amount of blood in the heat-producing and heat-losing area being also the same, it is evident that the amount of blood passing through the glands and muscles (or any other part) in a given time will be directly proportional to the rapidity and force of the heart's action. Hence, if the force and frequency of the heart's action be reduced, the oxidation will also be diminished. It is true that the circulation *might* be so rapid as not to allow the blood to remain in the tissues long enough for oxidation and the exchange of gases to occur; but this is of no practical moment, and does not require any consideration at our hands.

When we come, in the next place, to consider the way in which the temperature of the body is regulated in health, we find a much greater unanimity of opinion.

It is universally agreed that the most important factor in the regulation of the body heat is the perspiration. The manner in which the heat is reduced by sweating, is chiefly by the evaporation of the water on the surface of the body, though we have just seen that the heat production is lessened by the withdrawal of blood from the heat-producing area. There is another circumstance which *probably* has some influence on the production of heat which should have been mentioned previously; namely, the concentration of the blood. Our ideas as to the intimate nature of the process of oxidation in the body are as yet too crude for us to understand all the circumstances by which it is influenced. But Thoma* has shown that the movements of the *white* corpuscles of the blood and the wandering connective tissue corpuscles are much more active where the fluids in which they move are

* *Virchow's Archiv*,, Vol. LXXI—Heft 1.

moderately dilute; and it is reasonable to suppose that the processes in which the red corpuscles are engaged would be influenced in a similar manner. In the winter season, also, when less water is given off from the body, more oxygen is consumed and more carbonic acid given off. From these circumstances it is probable that the production of heat is directly lessened by the concentration of the blood produced by the perspiration. The amount of secretion from the sweat glands, like that of all other organs, is generally in direct proportion to the amount of blood which they receive, though the fact that belladonna causes a free flow of blood to the skin, and, at the same time, checks the perspiration, shows that the sweat is not a simple transudation, dependent entirely on the amount of blood in the skin, but is a genuine secretion, and like all other secretions, dependent on the functional activity of the sweat glands.

The following conclusions seem warranted with respect to the mode of production and regulation of the temperature of the body:

1. Hyperpyrexia is usually caused by excessive oxidation as is evinced by an increase in the amount of urea and carbonic acid discharged.

2. The chemical movements of the body are largely under the control of the nervous system, and are influenced both by a special system of nerves, and also by the vaso-motor nerves; for it is an established dictum in physiology, that *as a rule*, the functional activity of a part is in direct proportion to the amount of blood which it receives, and the amount of blood in the heat *producing* area is dependent on (*a*) the calibre of the capillaries; (*b*) the amount of blood in the heat *losing* area; (*c*) the rapidity and force of the heart's action.

3. The chemical movements of the body may, however, be influenced directly without the intervention of the nerve centres, at least, by influences acting directly on the dis-sociation of oxy-hæmoglobin.

4. Hyperpyrexia may be caused by increased retention of heat, as is the case apparently when the amount of urea is diminished. (Urea may be diminished, however, only because retained in the system.)

5. The body heat is regulated chiefly by the perspiration acting (*a*) directly by evaporation, (*b*) probably also indirectly by increasing the concentration of the blood, and thereby lessening the dis-sociation of oxy-haemoglobin.

See Page 707 (TO BE CONTINUED.)

ART. IV.—**The Use of Yellow Oxide of Mercury in Eye Diseases.**

By GEORGE REULING, M. D., Surgeon-in-Charge of Maryland Eye and Ear Infirmary, Baltimore, Md.

In the above agent, we possess a remedy far superior to powdered calomel; its excellence in certain eye affections was first recognized by Pagenstecher, of Wiesbaden, who, however, employed a formula of an inordinate strength, *i. e.*, one part to eight. (*Vide Ophthalmic Review*, p. 115, Vol. II.)

In all superficial inflammatory affections of the cornea, uncomplicated with iritis (whether of a scrofulous or syphilitic origin), this yellow oxide will be found to be—in the modified strength in which we now use it—of most astonishing benefit. It is more especially in that class of diseases, however, grouped together under the name of *phlyctenular ophthalmiæ* (keratitis phlyctenulosa, conjunctivitis phlyctenulosa, keratitis and conjunctivitis pustulosa), and in keratitis and conjunctivitis lymphatica, that the use of this ointment is followed by highly gratifying results.

In superficial ulcers of the cornea, it has always proved a most successful agent, and is greatly to be preferred to the insufflation of calomel. It is necessary, of course, to combine its use with that of other remedies. Thus, in corneal diseases, uncomplicated with disease of the iris, dependent upon a scrofulous diathesis or the syphilitic taint, anti-scorbutics or anti-specifics should be intelligently employed. It may be said in this place, that children—who offer the greatest percentage of phlyctenular ophthalmiæ, and in whom the affections are entirely due to improper hygiene and the scorbutic diathesis—are always relieved by the ointment, together with the internal administration of the syrup of the iodide of iron (5 to 15 drops, three times daily), and the "milk diet,"

i. e., a small quantity of milk taken at frequent stated intervals during the day.

In certain corneal affections—*e. g.* ulcers—the use of atropia, of the strength of two grains to the ounce, should be employed in connection with the ointment, although in simple phlyctenular ophthalmiæ, atropia need scarcely ever be instilled; the yellow oxide, together with the injunction of strict cleanliness and the use of the internal remedies mentioned above, has proven amply sufficient in my hands. In this class of diseases, indeed—phlyctenular ophthalmiæ—the ointment acts like a charm, inasmuch as after the second or third insertion all trace of the disease has commonly disappeared.

I generally employ a salve, consisting of eight to ten grains hydrarg. oxid. flav. to the half ounce of simple cerate. About as much as a small pea is to be introduced between the eyelids of the patient by means of a silver probe or any similar slender instrument—a hair-pin will answer the purpose sufficiently—and the patient is thereupon requested to close his eyes tightly. The inserted salve is then to be rubbed all along the cornea and sclerotic by means of a handkerchief, and after this manœuvre has been performed for about half a minute, the lids are to be opened, the lower lid well drawn down, in order to expose the conjunctival sac, where the remnants of the salve will generally be found. With the twisted end of the handkerchief, these are all carefully to be removed, so as to prevent any consequent irritation.

The salve should be prepared in the following manner, and I lay especial stress upon its preparation, because great importance attaches thereto:

The prescribed quantity of the oxide is to be put into a mortar and the granules *perfectly* divided, for the better attainment of which necessary end, a drop of olive or sweet oil may be added. Not until the granules are all divided into a fine powder, should the cerate be added and well impregnated with the powder by means of the pestle. It is because of the easier and more thorough division of the granules, that the yellow oxide is so vastly superior to the red.

The use of the yellow oxide of mercury ointment, however, is not restricted to corneal affections; or to phlyctenulæ and lymphatic inflammation of the conjunctiva. I would further recommend its use in that very frequent disease of the edges of the lid and the lashes, known as *blepharitis ciliaris orb. marginalis.* Here, however, when the salve is applied by the patient, it is necessary to make use of a much weaker preparation. I commonly prescribe the following formula:

℞. Hydrarg. oxid. flav.....grs. ij.
Cerat. simpl.....℥ss.

M. ft. unguent. S. To be applied at night.

The crusts being all carefully removed by the nail of the little finger, which the patient is advised to let grow for this purpose; or, the "dandruff" being mopped by a soft sponge dipped in tepid water, and then removed, the patient takes about as much as a pin's head of the ointment and rubs it gently along his lashes upon retiring at night. It is necessary, of course, that the physician should previously remove all the diseased lashes.

In connection with this treatment, which will be found far preferable to any other, a weak solution of zinc may be dropped into the eyes. For children, one-half a grain of the sulphate of zinc to the ounce of distilled or of rose water will be found sufficient. Hygienic measures are, moreover, to be strictly enforced.

In the milder cases of herpes zoster ophthalmicus; in eczema palpebranum, and in ozœna scrofulosa, the yellow oxide of a more concentrated strength (five to ten grains to the half ounce—and stronger, as the case may require) is to be applied by means of a camel's hair pencil or pigeon feather to the previously cleansed parts.

It will be seen from what has been said in the foregoing pages, that in the yellow oxide of mercury ointment we possess a highly important remedy, applicable in a class of affections which are exceedingly frequent, and it is therefore with pleasure that I recommend its use to the attention of the profession.

ART. V.—**"Yellow Fever, Embracing the Liability of Richmond, and the Need of Quarantine."*** By L. S. JOYNES, M. D., Secretary of the Virginia State Board of Health, &c., Richmond, Va.

The advanced period of the season lessens, in some degree, the present interest of a discussion on the subject of yellow fever. But it is a subject which cannot fail to possess a great and permanent interest for every Southern physician; indeed, I might say, for every American physician—for the "great American plague," as yellow fever has been aptly styled, does not limit its visitations to Southern latitudes alone. To us in Richmond, the interest investing it must be a yearly increasing one, in view of the ever-increasing tendency of this pestilence (so conspicuously manifested during the present year) to extend its ravages to new localities, where it was before unknown. Richmond is one of the Southern cities which have thus far escaped its inroads—no case having been known to originate here, though refugees from infected districts (especially from Norfolk and Portsmouth in 1855) have had the disease in our city, and the cases have more than once terminated fatally.

I do not propose to enter into a discussion of the general subject of yellow fever, but merely to inquire *whether the exemption which this city has enjoyed in the past can be reckoned upon in the future; and, if not, whether any and what means should be employed to prevent the invasion of the destroyer?*

I am well aware that it is an unwelcome—indeed, an *unpopular*—office to undertake to convince a community that it is in danger of a great evil from which it has heretofore thought itself safe. Dr. Rush, in his history of the memorable epidemic of yellow fever which ravaged Philadelphia in 1793, speaks of the "ridicule and contempt" with which his warnings on the appearance of the first few suspicious cases of fever were treated. "Indignation, in some instances, was excited against me," he says, "and one of my friends, whom I advised, in this early stage of the disease, to leave the city, has since told me that for that advice 'he had hated me.'

*This paper was read before the Richmond Academy of Medicine, in a discussion of the above subject, on the 1st of October, 1878, and is published by request of the Academy.

My lot in having thus disturbed the repose of the public mind upon the subject of the general health was not a singular one. There are many instances upon record of physicians who have rendered themselves unpopular, and even odious to their fellow-citizens, by giving the first notice of malignant and mortal diseases." But I hold, as did Dr. Rush, that the paramount object of every medical man in such a case should be *truth;* and that if there be danger, whether present or prospective, it is his plain duty, as a faithful guardian of the public health, and as a good citizen, to declare it, so that those to whom the community has entrusted the necessary powers may consider what steps should be taken for the public safety.

If the negative action of the City Council may be taken as an indication, it is the general belief in Richmond that our city is exempt from all danger of yellow fever, and that it is quite unnecessary to adopt any measures to prevent its introduction. When the application of the Board of Health for authority and means to institute precautionary measures was before the Board of Aldermen in August last, a member of this body, himself a medical man of experience and reputation, made a *solemn protest against doing anything at all.* He declared that the experience of 150 years showed that *yellow fever could not live here.* "The disease is not contagious. It will not propagate here. The soil will not furnish the material for the disease." He was "willing to take his chances here with only the shield which nature has placed around Richmond in her *elevated position and salubrious air.*"

Another medical gentleman of high standing had previously expressed before the Common Council the opinion that a quarantine was unnecessary, because, by reason of the excellent sanitary condition of the city, the disease was not at all likely to spread here. He also avowed his belief that there is "not a physician on the face of the earth who now believes that the disease is contagious."

I do not propose to argue the question of *contagion*, to which these distinguished and respected members of the profession seem to attach so much consequence. I freely admit that the weight of authority—*though with some notable excep-*

tions—is in the negative; and I dismiss the subject with the simple remark, that if non-contagiousness were a safeguard against its introduction, yellow fever would never have visited scores of cities and towns where it has counted its victims by hundreds and thousands. If it be a guarantee of safety here, it would have been equally so in those places; and it is clear that we must look for some other ground of immunity.

If it be true that Richmond is exempt from all danger of the invasion of yellow fever under favoring circumstances, this exemption must be due to its geographical position, to its topography and surroundings, to its climatic and meteorological peculiarities, or to its internal hygienic condition. Let us view these several circumstances by the light of facts and experience.

As its regards geographical position, it cannot be claimed that the *latitude* of Richmond confers immunity upon it; for yellow fever has often prevailed with destructive violence at points farther North. Baltimore has been visited by it repeatedly since 1794; Wilmington, Del., more than once. Philadelphia, since 1699, the date of the first serious visitation, has experienced numerous epidemics, some of them memorable for their fatality; especially that of 1793, which destroyed more than 4,000 people out of a population of about 40,000; and that of 1798, which was almost as destructive. Even as late as 1853 and 1870, the fever, introduced by infected vessels, found a foothold in the city, though to a limited extent. New York is said to have suffered from yellow fever as far back as 1668, and it is certain that in 1702, and many times since, the disease has prevailed there as an epidemic, sometimes with great fatality. The last serious visitation of this kind in the city was in 1822; but in 1856, a considerable number of cases occurred on Governor's Island, within a few hundred yards of the city, and on the shores of Long Island and Staten Island, in the vicinity of the quarantine, at which infected vessels were lying. And still later, in 1870, there was an epidemic on Governor's Island, in which more than 150 cases occurred among 800 residents (soldiers and others) and which was sufficient to demonstrate that the yellow fever

poison can germinate and flourish in the latitude and climate of New York, as well at the present day as it could a hundred years ago, and that the exemption from an epidemic invasion since 1822 has been due to vigilant precautionary measures, and a more effective internal sanitary system.

Of localities farther North than New York in which yellow fever has occurred once or oftener, may be mentioned Albany and Catskill (N. Y.), New London, New Haven, Hartford, and other towns in Connecticut; Providence, Newport and Bristol (R. I.); the island of Nantucket, Boston (repeatedly visited), Salem, New Bedford and Newburyport (Mass.), and Portsmouth (N. H.)

It is, indeed, remarkable that yellow fever made its appearance in several of these New England towns, as it did in New York and Philadelphia, *long before it did in New Orleans*—the latter city having been first invaded by it in 1769, more than fifty years after its first settlement by the French. According to Dr. Nott, New Orleans remained exempt until 1796.

It is also a matter of history that yellow fever has extended its migrations in times past as far as Halifax, N. S., and even Quebec, situated in lat. 46° 49′—more than nine degrees north of Richmond; and that it has been imported by shipping into the seaport town of St. Nazaire, on the west coast of France, in latitude about 47° 30′.

This brief citation of historical facts is quite sufficient to dispose of the claim of Richmond to exemption on the ground of not being situated within the so-called *yellow fever zone.*

But we are reminded of the preference of this disease for low situations on or near the sea-coast, and are told that Richmond is too remote from the sea, and especially *too elevated in situation*, to afford a congenial field for the entrance and diffusion of yellow fever. The value of these assertions also may be easily tested by an appeal to facts.

Richmond is about one hundred miles, by the course of the James river, from Hampton Roads, which may be regarded as an arm of the sea. (The usual estimate of this distance is a great exaggeration. My authority for the statement just given is Major H. D. Whitcomb, the Engineer of

the James River Improvement.) Allowing ten miles from the mouth of James river to Old Point Comfort, and twenty miles from the latter point to the capes, the total distance of Richmond from the sea can hardly exceed 130 miles. Its *altiude*, or elevation above sea-level, is stated by Dr. J. M. Toner, in his "Table of Localities, in the United States, where yellow fever has appeared since 1668" (*Reports and Papers of the Am. Pub. Health Ass.*, vol. 1), at 50 feet. But the elevation of the lower part of the city (at Rocketts and along the dock) is certainly less than that. It must be recollected that the tide ebbs and flows to our wharves—indeed, to the very foot of the falls. A recent letter from the office of the Chief Engineer at Washington to a citizen of Richmond, in reply to an inquiry on this subject, states that the difference of level between the water at Rocketts and the water in Hampton Roads does not exceed 3½ feet; it is plain, therefore, that the elevation of the part of Richmond referred to is considerably less than 50 feet; and we know by oft-repeated experience that it is submerged by every considerable freshet in the river.

Exact information in relation to the altitude of different points in Richmond *above mean tide at Rocketts* is furnished by the Annual Report of the Council Committee on Water for the year 1876. I select a few points of which the altitude is given as follows:

Main Street at Seventeenth				20	feet, 2	inches.
"	"	" Fifteenth		30	" 3	"
"	"	" Fourteenth		51	" 5	"
Broad	"	" Seventeenth		27	" 3	"
"	"	" Eighteenth		44	"	"
"	"	" Nineteenth		52	" 3	"
Grace	"	" Twenty-seventh (highest point on Church Hill)		161	" 3	"
Fifth Street between Grace and Franklin (highest point on Shockoe Hill)				188	" 6	"
Franklin Street at Second				187	" 6	"

It hence appears that *the highest point in the city of Richmond is less than two hundred feet above the water in Hampton Roads—that is to say, above sea-level.*

Now, yellow fever does not confine itself to lower altitudes, nor to less distances from the sea, than those of Richmond. As to the latter point, witness Montgomery (Ala.), situated on the Alabama river, more than 300 miles from Mobile Bay. The fever had prevailed many times at Mobile, with which Montgomery had constant communication by steamboat, before it ever assailed the latter city; and the people of Montgomery, no doubt, considered themselves safe against this enemy, just as Richmond people boast their safety today. They could plead the experience of the past in proof of their immunity, precisely as the same experience is appealed to here. But in 1853, in the midst of their security, the yellow fever came; it came again in 1854, a third time in 1855, and a fourth time in 1873—on each occasion as an epidemic.

Witness Memphis, again, situated at a distance of between 800 and 900 miles from the Gulf of Mexico. Low-water mark on the bank of the Mississippi in front of it is 187 feet above tidewater in the Gulf. Dr. Toner, in the table already cited, states the altitude of the city itself at 260 feet. From data furnished by Dr. Erskine, of Memphis, in an account of the yellow fever epidemic of 1873, I have ascertained that the elevation of those portions of the city in which the fever then prevailed varied from about 200 to 270 feet. After having long escaped, and enjoyed, no doubt, a feeling of perfect security, Memphis, like Montgomery, experienced a first visitation of yellow fever in 1853, the year of the great epidemic in New Orleans. The ravages of the epidemic of 1873 are fresh in the memory of us all; and for weeks past Memphis has been battling against a still more fierce and destructive invasion of this same foe.

Look next at Hickman (Ky.), more than 1,000 miles from the Gulf; Cairo (Ill.), about 1,100 miles, in and near which town a number of cases of yellow fever have recently occurred; and (a more remarkable example still), Gallipolis (Ohio), situated on the western bank of the Ohio river, more than 1,700 miles from the Gulf of Mexico, more than a degree of latitude farther north than Richmond, and at an altitude above sea-level, stated by Dr. Toner at 520 feet, by Dr.

La Roche (in his great work on Yellow Fever) at 600. Gallipolis is said to have suffered an invasion of this disease as long ago as 1796; and within the last few weeks a considerable number of cases of yellow fever, of which a large proportion have been fatal, have occurred in its vicinity—nearly all of them originating from communication with the infected steamer John D. Porter, lying at anchor in the river, or with her crew; this vessel (as remarked by the Surgeon-General of Marine Hospitals in a recent report) having "ascended the Mississippi and Ohio rivers from New Orleans to Gallipolis, with effect much like a firebrand among explosives."

A yet stronger case is that of Chattanooga (Tenn.), where the yellow fever has unexpectedly gained entrance during the present epidemic, there having been up to September 27, 41 cases and 26 deaths.* "A refugee was taken with yellow fever August 21st, and another Sept. 6th. The first case among the inhabitants occurred Sept. 18th." (Rept. of Surgeon General of Marine Hosp., Sept. 28.) Chattanooga is situated on the Tennessee river, in a mountainous region, at an altitude stated in the public prints (no doubt correctly) at 700 feet, and probably 1,500 miles or more from the Gulf of Mexico by the course of the Tennessee, Ohio and Mississippi rivers, though much nearer by rail to many of the points assailed by this epidemic.

I take the following additional instances of points more elevated than Richmond, which have been visited by yellow fever, from Dr. Toner's table, already referred to:

Jackson (Miss.)	altitude,	275	feet.
Brandon "	"	300	"
Canton "	"	320	"
Little Rock (Ark.)	"	350	"
Fort Smith "	"	460	"
New Design, St. Louis county (Mo.)	"	420	"
Austin (Texas)	"	450	"
Brenham "	"	350	"
Calvert "	"	325	"
Corsicana "	"	425	"
La Grange "	"	450	"

*The last report of the Surgeon General of Marine Hospitals, dated October 5, states the number of cases to October 4 at 84, and the deaths at 44.

To these examples the experience of the present epidemic requires that Louisville, having also an altitude of 450 feet, shall be added. The report of the Surgeon General of Marine Hospitals of Sept. 28 states that in Louisville "18 cases and 10 deaths from yellow fever occurred during the week ended Sept. 27th. Nine cases and five deaths were among the inhabitants living within two or three squares of the Louisville and Nashville depot, where some unclaimed baggage of refugees had been stored." Although the disease has not attained the proportions of an epidemic in Louisville, the facts just stated are significant with reference to the question which occupies us.*

I shall not refer for evidence to certain points in the interior of Pennsylvania, having an altitude of more than 500 feet, where the fever is said to have prevailed in 1799, nor to Winchester (Va.), with an altitude of 700 feet, which is said to have been visited by it in 1804; because there is strong reason to doubt whether the fever observed at these places was true yellow fever. But it is, at any rate, certain that the limitation of yellow fever in the United States to an altitude not exceeding 400 feet, which has been adopted by some writers, must be abandoned.

La Roche, in the treatise already quoted, admits that the disease has been observed at an altitude of 3,243 feet; and Aitken (*Science and Practice of Medicine*), at 4,000 feet; but, as one of these instances was in Mexico, and the other in the island of Jamaica, no inference can be fairly drawn from them as to what may happen in the United States. The following facts, relating to a country which is not tropical—which, in fact, is as far from the tropics as Virginia, and a portion of it farther—are of more direct interest. They are cited by Dr. Bennett Dowler, of New Orleans, in his "Tableau of the Yellow Fever of 1853." "The Report on Quarantine and Yellow Fever to the British Government for 1852 enumerates 96 cities, towns and villages in Spain, wherein yellow fever has prevailed in this century. Many of these places are far inland, high, dry, rocky and hilly, and among the mountains.

*Since this paper was written, I have learned that the altitude of Holly Springs (Miss.) above the Gulf exceeds 700 feet.

Ximena, on a hill; Chepiona, on a rock; Medina Sidonia, on a high hill; Los Barrios, in the mountains; Xerez, on a hill; Arcas de la Frontera, on a very high rock; Utera, between two hills; Carmana, on a hill; Moron, at the foot of a chain of mountains; Grenada, 927 feet high, near the Sierra Nevada mountains, thirty-one miles from the sea; Ronda, in the midst of a range of mountains, at a very great elevation." "Gibraltar, a compact, gray, marble promontory, three miles long, seven in circumference, an area of 400 acres, covered in few places with earth, rising 1,500 feet above the sea, which washes its almost inaccessible walls, having had a population of 15,000, lost out of this number, in a few weeks, in 1804, from yellow fever, 5,733, or nearly two in five." Gibraltar was again visited by yellow fever in 1813 and 1828.

But it would be a needless consumption of time to adduce further evidence to prove that Richmond can claim no immunity from the visitation of yellow fever by reason of her geographical position or her topographical features.

As it respects *climatic influences*, it cannot be questioned that Richmond offers conditions highly favorable to the introduction and propagation of the yellow fever poison. Her summer climate is *semi-tropical;* and if a high and long-continued heat be regarded as an essential condition of the prevalence of this plague, certainly this condition is present in our midst nearly every summer, as the uncomfortable experience of all of us attests. All must admit that Richmond can claim no advantage in this respect over New York and Boston, where yellow fever has repeatedly asserted its sway.

Some writers maintain that a temperature of 72° is sufficient for the growth and propagation of the germs of the disease. If this be so, we have few days in summer in which the required degree of heat is not reached.

Notwithstanding all that has been said of the "salubrious air" of Richmond, in which it is asserted that yellow fever "cannot live," it is certain that it is an atmosphere in which other zymotic diseases find no difficulty in obtaining a foothold. Typhoid fever, the malarial fevers, diphtheria, scarlet fever, cerebro-spinal meningitis, are all familiar to us in prac-

tice. An atmosphere which is impure enough to tolerate and foster these diseases, can hardly be too pure to permit the intrusion of yellow fever. It is said that this pestilence specially affects districts where the malarial fevers also prevail. This being so, if we consider the number of cases of intermittent and remittent fever that we annually meet with, not only in the environs, but in the city itself, we must see that there is little justification for the assumption that Richmond can boast of a *charmed atmosphere*, which the demon of yellow fever dares not enter.

While the zealous and intelligent efforts of our Board of Health to improve the sanitary condition of the city are deserving of all praise, there are two circumstances connected with the question of purity of atmosphere, which must by no means be forgotten: First, that the sewerage system of Richmond is still very incomplete, the total length of the sewers, according to the City Engineer's report for 1876, being *less than one-third* of the length of the graded streets. Secondly, that, of the 14⅞ miles of sewers, about 10⅛ miles (*more than two-thirds of the whole*), discharge themselves directly or indirectly into the slender stream of *Shockoe creek;* so that in effect, Richmond is traversed in its whole breadth, and almost at its centre, by *an open sewer*—a *cloaca maxima*, free to exhale its perfume into the air at every point—whose feeble current is freighted with two-thirds of the sewage of the city. It is needless to dilate upon the inevitable effects of this unfortunate system upon the condition of the atmosphere, in all those portions of the city, at least, which are contiguous to this open filth-drain.

While maintaining the liability of Richmond to yellow fever, because not a single valid ground of immunity can be adduced, I do not contend that this disease has ever yet prevailed here, except as affecting refugees and others who have received the infection elsewhere. I am aware that Richmond is sometimes stated to have suffered from yellow fever in 1806, and is included by Dr. Toner in his table (before cited) of localities in which it has prevailed. But on an investigation of the facts, it is found that the disease which was so-called was confined to a few of the prisoners in the peniten-

tiary, which establishment was much more completely isolated from the city at that early day than it is at present; and that not a single case occurred in the city itself. Besides, there is reasonable ground for doubt whether the disease was genuine specific yellow fever, or bilious remittent fever with yellowness of the skin.

But granting that Richmond has not yet been visited by yellow fever, the fact furnishes an argument of no more weight than a similar past exemption would have furnished in Memphis or Montgomery at any time before the year 1853, in Montevideo prior to 1857, or in Holly Springs or Chattanooga three months ago. In view of the fact that, in almost every epidemic year, the pestilence widens its range, and invades localities which it had previously spared, this sort of argument must be regarded as the weakest of all.

If, however, yellow fever has never established itself at Richmond, it has certainly done so at *City Point and Petersburg*—at our very gates, so to speak. This happened in the year 1798, one of the most memorable years in the history of this pestilence. In a pamphlet, by Dr. William Currie, of Philadelphia, entitled "Memoirs of the Yellow Fever which prevailed in Philadelphia and other parts of the United States of America in the Summer and Autumn of the present year, 1798," I find the following: "The Richmond papers state that one-sixth part of the usual number of the inhabitants residing at City Point, near Petersburg, Va., have been swept off in the course of about 20 days; that the fatal malady was spread by the ship Nestor, of Portland, Capt. Wait, which vessel arrived at City Point from Philadelphia on the 24th of August, having thrown four dead hands overboard on her passage. Being without hands to load with tobacco, negroes were called upon, and out of eleven thus employed, ten have died. Almost every case can be traced to this vessel." "Among the victims in the fever at City Point, are William H. Hanson, Deputy Collector, and Robert Walker, Surveyor of that port."

From a letter written by a resident of Petersburg, which is also printed in Dr. Currie's tract, it appears that the ship arrived in ballast—that several gallons of fetid bilge-water

were pumped out of her—that "most of the hands who pumped it sickened and died, as did several of those who helped to land the ballast." That no doubt may remain as to the nature of the disease, "*a black vomiting*" is distinctly mentioned as one of the symptoms. This correspondent also states in a second letter that there were, at the time of writing, a number of cases of the same fever in Petersburg.

Now, will any one undertake to deny that what happened at City Point may also happen at Richmond? In what conceivable respect is the lower part of Richmond to be regarded as less liable to an invasion of yellow fever than City Point, except the insignificant circumstance of being forty miles farther from the sea? I say the *insignificant* circumstance, because yellow fever finds no difficulty in reaching points more than a thousand miles from the sea.

I have no idea that there is any danger of a *local origin* of the disease in Richmond; the danger is that of *importation*. What we have chiefly to fear is exactly what happened at City Point—the arrival of a vessel from an infected port, with an infected cargo or infected ballast, infected bilge-water, and *infected air*, which has been imprisoned in her hold during the voyage, and so brought directly from the plague-stricken port to our own wharves.

The nature of the danger at once suggests the proper measure of defence—a wisely planned and efficiently conducted *quarantine*. It would not accord with my present purpose to consider the subject of quarantine in its details. I will merely remark that the subject is now much better understood than formerly, and that the system of quarantine now practised at some of our seaports (New York, New Orleans and Galveston), is, at the same time, more protective of the public health, and less obstructive to commerce, than the arbitrary detention of a vessel for a certain fixed number of days, under the system formerly in vogue. The report of the health officer of the port of New York for 1876, shows, that "during that year, 363 vessels arrived at the New York Quarantine Station from ports at which yellow fever was prevalent, and that on 99 of these vessels, there were cases of that disease. These cases were all cared for at the Quar-

antine Station. All the vessels were subjected to a rigid system of disinfection, and *no case of the disease arrived at the city from any vessel.*"

A belief seems to prevail in the community, that in the year 1855, when yellow fever committed such frightful ravages in Norfolk and Portsmouth, no precautionary measures were adopted by the Richmond authorities; whence it is argued that such measures are neither necessary at the present time, nor will become so at any time in the future. One of the daily papers, in condemning quarantine, has given color to this erroneous impression, by misrepresenting, through forgetfulness, no doubt, and quite unintentionally, the facts of the case.

It is not true that there was no quarantine maintained by Richmond on that occasion, and that intercourse with Norfolk and Portsmouth was entirely free and unrestricted. On the contrary, a quarantine was established at a very early period. A reference to the files of the Richmond daily papers of the year 1855, will enable any one to verify the following facts: On the 1st of August, an ordinance was adopted by the City Council establishing quarantine, and designating the quarantine ground. A superintendent of quarantine (Robert Rankin) was elected, and his compensation fixed. A resolution offered by Dr. A. Snead was adopted, *that all sail and steam vessels, of whatever description, coming from, or touching at, the ports of Norfolk, Portsmouth and Gosport, should be subject to quarantine.* On the 9th of the same month, the Council adopted a more stringent ordinance, quarantining *all steamers and vessels coming up James river from any place in the Commonwealth below City Point.* A resolution was also adopted, requesting the proprietors of the Augusta to discontinue the trips of their steamer during the prevalence of the fever at Norfolk, Portsmouth, and Gosport. (The Augusta plied between Norfolk and Port Walthall, in connection with the Richmond and Petersburg railroad. The Norfolk and Petersburg railroad was not, at that time, completed.)

August 11. The *Whig* stated that the Curtis Peck had brought up the evening before from Norfolk, &c., a large

number of passengers, who were permitted to land, but that the steamboat *went into quarantine*, and would discontinue her trips until further notice; that the Augusta had also been taken off the line. "So direct communication with Norfolk," adds the *Whig*, "is suspended."

Strong protests having been made against the manner in which the fever-stricken cities had been cut off from the world, the Council on (or about) the 20th of August repealed the rigid quarantine regulations before adopted, *so far as steam vessels were concerned;* and on the 22d, the Curtis Peck resumed her trips, *not running to Norfolk, however, but only as far as Hampton and Old Point.* She made regular connections in Hampton Roads with the steamboat Coffee, from Norfolk, and, in this manner, passengers from Norfolk, &c., were enabled to reach Richmond, and *vice versa*. In the same way supplies from Richmond destined for the suffering cities were forwarded. On the same day (August 22d), the Augusta also resumed her trips, but *only to Hampton*. It is certain, therefore, that *from about the 10th of August* (which was some time before the epidemic reached its maximum of severity), *there was no direct communication, by steamboat or otherwise, between Richmond on the one hand and Norfolk and Portsmouth on the other.*

September 7. The Council adopted an ordinance establishing the office of Health Officer, and elected Dr. Snead to fill the same. "The ordinance," said the *Dispatch*, "makes it imperative on the officer to visit any person suspected of being afflicted with an infectious disease, and to notify the Mayor whenever it may be necessary to have the sufferer removed to the Hospital." In consequence of the passage of this ordinance, most of the cases of yellow fever occurring in this city among the refugees were treated in the City Hospital.

The experience of Richmond in 1855, therefore, certainly affords no argument against the adoption of precautionary measures now and in the future, but rather furnishes evidence in their favor.

But there is danger of importation not only by water, but *by land* also. A train of railroad cars may be likened to a

ship. Arriving from an infected city, it may bring infected freight and baggage, and a portion of the *infected air* of the fever-smitten locality, shut up in the cars as in the hold of a ship, and ready to diffuse itself in the air of a healthy town when those cars are opened. That air freighted with yellow fever germs may be thus transported, and may produce the disease in persons exposed to it at points more or less distant, is not only probable, but has been, I think, fully proved. The following facts observed during the epidemic at Savannah, in 1876, may serve as an illustration in point. They are given on the authority of Dr. A. B. Lanier, of Oliver (Ga.), a place on the Georgia Central railroad, 45 miles from Savannah. "All the railroad employees at Oliver who slept about the cars had yellow fever. Those who did not sleep about the cars, though all other circumstances pertaining to the two classes were identical, did not take the disease. A young man named Lufborough, a farmer of the neighborhood, twenty-one years of age, perfectly healthy, had not been near Savannah during the entire season. On the night of the 13th of September of the present year, Mr. Lufborough went on board the accommodation passenger car that remained over night at Oliver. He slept in the car that night. He was taken with yellow fever on the night of the 16th, and died with black vomit on the 21st." (Dr. H. F. Campbell on the *Railroad Transportation of Diseases*, in the Second Annual Report of the Board of Health of the State of Georgia.)*

During the present wide-spread epidemic, the propagation of the disease from point to point by railroad communication has been one of its most conspicuous features. Witness its extension to numerous points on the railroad line running north from New Orleans through the State of Mississippi—Osyka, Winona, Crystal Springs, Jackson, Canton, Grenada, Water Valley, Holly Springs, Grand Junction, and perhaps other

*Dr. J. C. Nott, formerly of Mobile, afterwards of New York, in a report on yellow fever to the Board of Health of the latter city in 1870, after giving the particulars of the extension of the disease from Mobile to several points in the interior during the epidemic of 1853, says: "No evidence, I think, could be more complete to establish the portability of a disease. All facts being opposed to its contagiousness, I can come to but one conclusion, viz.: that the germ may be closed up in trunks or boxes, or be shut up in the baggage car of a railroad, transported from one point to another (as from Mobile to Grove Hill and Citronelle), and turned loose to propagate and do its work of destruction."

places; its conveyance from Memphis to Brownsville, Paris, Guthrie, and other points on the Louisville and Memphis railroad, and to Germantown, Collierville, La Grange, Rossville and Moscow, on the Memphis and Charleston railroad, between Memphis and Grand Junction. To railroad communication by the same great thoroughfare must also be ascribed the appearance of the fever at Decatur (Ala.), and Chattanooga (Tenn.), for, although both of these towns are on the Tennessee river, they are both situated above the highest point reached by steamboats from below. Few, I think, will contend for the *spontaneous and independent origin* of yellow fever at all these interior points.

Is there no defence against this danger by land? Can there be no *quarantine of the railroad car*, like that enforced against the ship? On this point I know there are wide differences of opinion; many maintaining that such quarantine could not be made effective, and would be too great an interruption to trade and travel, if it could be enforced.

When the infected town, and the healthy one desiring to protect itself by quarantine, are separated by long distances (as Memphis and Richmond, for example), with many intervening towns on the route, it cannot be denied that many difficulties would attend the measure. But between places not remote—as, for instance, Norfolk and Petersburg, Petersburg and Richmond, Charleston and Columbia, Savannah and Augusta—I do not see that the case presents any insuperable difficulties. Let the cars from the infected place be absolutely forbidden to enter the healthy town; let them be stopped at a quarantine station five, seven, or ten miles from town, and be there met by cars sent out to receive their passengers—just as a steamboat from Richmond and a steamboat from Norfolk met in Hampton Roads for the transfer of passengers in 1855. Provision should also be made at the quarantine station for the prompt and thorough *disinfection of all baggage*, and of all freight of such a character, that it might possibly serve as *fomites* for the fever-poison. When thus disinfected, such baggage and freight should be transferred to the fresh and uninfected cars sent out from the healthy town.

Under such a plan, there would be no inhospitable exclusion of refugees seeking escape from the pestilence, and their admission would only be attended with the delay requisite for the adoption of measures for the safety of the people among whom they sought refuge; and the transportation of baggage and freights would be subject to conditions demanded by the same paramount consideration. No doubt such a plan would be attended with inconvenience and expense; but the grave practical question is, how much inconvenience and expense we think it worth while to submit to in order to prevent the introduction of a deadly pestilence, which, when once it has gained a foothold in a populous town, will certainly prove ruinous to its present business, and most damaging to its future interests; will compel heavy expenditures while it is committing its ravages; will destroy hundreds or thousands of lives, and fill almost every house with mourning.

One further means of preventing the inroads—or at least the epidemic prevalence—of yellow fever needs but a bare mention: I allude to *internal sanitary measures;* the keeping a city clean, and its air pure, by the methods and appliances of public and private hygiene. What is true of yellow fever in this regard is not less true of epidemic diseases in general: They are the dread monitors appointed by the Divine Ruler to compel communities to learn the principles and obey the laws of health. As it respects yellow fever in particular, Dr. Greensville Dowell, of Galveston, an observer of large experience, in his late work on this disease, expresses the opinion that nothing is so important in the prevention of yellow fever as proper water-supply and sewerage, and that the disease "cannot be taken in a pure air from persons, clothing, trunks, or black vomit; but in an impure air, other things being suitable, it can be taken from *either*." There is, indeed, a superabundance of evidence as to the influence of atmospheric impurities in promoting the diffusion and aggravating the fatality of this pestilence.

Of the efficacy of vigorous and systematic sanitary measures, combined with a strict quarantine, in preventing the invasion of yellow fever, even in places where it frequently

prevails, a signal illustration is afforded by the experience of New Orleans during its occupation by the Federal forces from 1862 to 1865, inclusive. The frequency and fatality of epidemics in that city is unfortunately too well known. Since its first introduction, the disease has prevailed there to a greater or less extent as an epidemic, about one year in every two, *on an average*. Yet, during the four years of military occupation, although the city was full of unacclimated persons, both soldiers and civilians, and 100,000 Northern men are said to have annually arrived in or passed through it, there was no sign of a yellow fever epidemic, and only an insignificant number of sporadic cases. Sanitary regulations were enforced during the whole time with true military rigor, and to this circumstance, together with the rigid quarantine, is to be ascribed the unusual health of the city under circumstances otherwise so favorable to the appearance and spread of the disease.

Municipal governments may well take a lesson from this military example: *Fas est et ab hoste doceri.* If any one should urge the difficulties and the cost of efficient preventive measures, let him weigh against them the horrors and the cost of an epidemic of yellow fever! As to the latter point, it may assist his calculation for the city of Richmond to be informed that a careful estimate of the expense and the losses in various ways resulting to Savannah and her people from the epidemic of 1876, made the fearful aggregate of over $5,800,000—a severe penalty to pay for the neglect of measures for the protection of the public health; to say nothing of the sadder penalty of the loss of 900 lives. Let us hope that Richmond will not wait for the argument of a similar fatal experience to convince her of the wisdom of a timely adoption of the proper measures for her own safety.

What to do against yellow fever, after it has gained a lodgment in our midst (if such a thing should ever, unfortunately, happen), does not fall within the scope of this paper, the sole purpose of which has been to consider the question of *prevention*. As none can tell how soon this dreaded plague may threaten us again, this question is one that calls for the anxious consideration of the constituted guardians of the public

welfare, as well as of every citizen who has that welfare seriously at heart.

Note on the Yellow Fever in the Penitentiary in the Year 1806.

Having referred in the foregoing paper to the reported occurrence of yellow fever within the walls of the Virginia Penitentiary in 1806, and expressed doubts as to the true character of the cases to which that name was given, it has seemed to me desirable to look a little more closely than I had yet done into the facts of the case, with the view of obtaining all the light possible on so interesting an event of local medical history. The following is a statement of all the evidence I have been able to gather on the subject:

Dr. Toner, in his table of localities where yellow fever has prevailed, gives the *Medical Repository* as the authority for the statement that yellow fever prevailed in Richmond in 1806. On referring to that journal, I found it to contain nothing relating to the subject except an article copied from the Richmond *Enquirer*, without addition or comment. I determined, therefore, to examine the files of all the newspapers published in Richmond at that time, viz.: the *Enquirer*, the *Virginia Argus*, and the *Virginia Gazette* (files of all which for the year in question are to be found in the Public Library), for fuller and more precise information.

The article copied into the *Medical Repository* from the *Enquirer* appeared as an editorial in the issue of this paper for September 9, 1806, under the caption "The Yellow Fever is of Domestic Origin." It declares that the appearance of this disease in the penitentiary conclusively settles the long disputed question of its importation or domestic origin. After discussing these opposing views at some length, it proceeds as follows: "The *city* of Richmond at this time enjoys an almost unexampled share of health. Bilious complaints have by no means an uncommon fatality. Rocketts' landing, our only depot of *foreign trade*, is not peculiarly afflicted by any species of sickness, much less by any of an uncommon appearance. Will the advocates of imported fever, then, believe, that at this very moment it has appeared in the penitentiary; at some distance from the centre of the city, on the very skirts of the country, insulated from every other building, and on the *opposite* side of the town to Rocketts' landing. *Such*, however, is the melancholy fact.

"That the fever of the penitentiary is the yellow fever of our cities is decided by the two *experienced* and ingenious physicians who have attended it. Its symptoms are the same in kind, though infinitely less in degree; the pain in the head—the red eye—the skin of a much darker hue than gold—the black vomit, or black fæces, according to the course of the bile. In the only case where the patient has fallen a victim, the sensibility of the stomach was so excessive, that by gently touching with the finger the region of the stomach, it produced the hiccough so symptomatic of the complaint.

"Where is there a fact more conclusive as to the origin of the yellow fever, because so little confused by the operation of contrary causes? It would be almost a miracle, had the *imported germ* of the yellow fever visited the penitentiary. Here are a set of men almost completely cooped up from the rest of the world. The turnkeys, the respectable Superintendent of the penitentiary, his whole family, are healthy. The guard, who traverse the outside of the building, are too far removed to communicate the contagion. Few persons have access into the building; no one can enter it without a permit from two inspectors; no one who has visited it lately has exhibited symptoms of the fever. The building is too completely cut off from the city to receive the noxious contagion in a tainted stream of air. And whence was this stream to blow? There is not a single corner of the city where the fever has peeped forth; *not one person who has fallen beneath it.*

"There seems not a deficient link in this chain of proof. Everything is complete—everything conclusive. It is scarce possible that the fever could approach from without; it must, therefore, have been generated from within. But *here* are sufficient causes for its production; desponding mind; the want of exercise; the want of something to exhilarate the spirits, and put the torpid functions into motion; the damp weather succeeding to a season of unexampled drought; the long train of inconveniences, inseparable from a state of confinement and labor. When causes like these exist, why seek for its origin in the West India market, whence no infected vessel has arrived; or in a city not yet visited by a single symptom?

"But let not our distant friends indulge the slightest alarm about the consequences of this fever. We pledge ourselves as to the spirit of the following facts:

"That not more than six or seven of the convicts have symptoms of the fever;

"That one only has died, whilst others are convalescent;

"That the fever of the penitentiary, though similar in its general symptoms, is comparatively innocuous to that of our large towns. The only victim who has yet fallen beneath it, lingered as many as twelve or thirteen days; whereas, in Philadelphia, it was not uncommon for them to sink in twenty-four hours. Of such *unequal* violence is the *same* fever at *different* places!

"That there prevails not the slightest alarm among the inhabitants of this city;

"That a few have even visited the penitentiary, for the purpose of inspecting the disorder; so perfectly were they convinced of its harmlessness;

"And that the best established opinion is, that the fever is not in the least infectious; that it rather passes from the air to the patient than from the patient to the air; that even in that case it does not immediately operate, but that it requires time to break down the tone of the body, ere it can produce its effect."

The *Argus* of September 10 announced the appearance of the fever in the following terms:

"It appears to have been ascertained, beyond a doubt, that the yellow fever has made its appearance among the convicts in our penitentiary. Seven or eight have been attacked with the disease, one of whom has died. It has hitherto been a question, whether or not the fever with which our cities have been afflicted, was imported. The circumstance of its appearing in the penitentiary, where there was no possible chance of its being communicated from any other place, proves most incontestably that it is of domestic origin. No unusual sickness prevails in the city at this time."

The *Gazette* of September 10th merely copied the article of the *Enquirer*, without comment of its own. In the same paper of the 13th, appeared a communication from "An Inhabitant of the Town," commenting sharply on the "vanity and folly" of "the philosophic editor of the *Enquirer*" in publishing such an article, and alarming town and country by announcing the appearance of yellow fever. The writer calls upon Dr. Greenhow, the physician to the penitentiary, to make an authentic statement of the facts. Dr. Greenhow anticipated this call by the following communication, which appeared in the *Enquirer* of September 12:

"To the Editor of the *Enquirer:*

"As undue alarm may have been, and may be, excited by rumor, relative to the yellow fever which has occurred in the penitentiary:

"I think it fit, as physician to the place, to state that *no new* cases have appeared for the last twelve days; that of seven cases one has terminated fatally (as has already been stated in the *Enquirer*); that the subjects of the other cases are convalescing, and from the present appearances, I have not the smallest apprehensions about their recovery; further, that the number of sick is daily *decreasing*, and that there exists a flattering prospect of a speedy return to the *usual* health of those confined *within the walls of the penitentiary.* JAMES GREENHOW."

11th September, 1806.

A second letter from Dr. Greenhow appeared on the 26th of September, as follows:

"To the Editor of the *Enquirer:*

"Since my last communication, there has appeared but *one* case of yellow fever in the penitentiary; *which case* has terminated favorably. Those that are now sick, labor under the intermitting and remitting fever, common at this period of the year, and *yield readily* to remedies.

"The length of time since the last case of yellow fever, and other circumstances, induce me to believe there will be no recurrence of that disease. Yours with respect, J. GREENHOW."

September 25th, 1806.

Both of the foregoing communications of Dr. Greenhow were copied into the *Argus;* but no further allusion to the subject is to be found in any of the Richmond papers, though the files of all of

them were followed to the end of October. Nor could any public document throwing further light upon it be found at the Capitol.

The only additional mention of this penitentiary fever which I have been able to find is in the following passage from Dr. Rush's "Account of the Diseases of 1806, 1807, 1808 and 1809," contained in the fourth volume of his "Medical Inquiries and Observations." Speaking of the year 1806, he says, "In the month of September, the yellow fever prevailed in the penitential house at Richmond, in Virginia, where its origin was previously traced to domestic putrefaction."

Such is the sum of the evidence now attainable in relation to this remarkable outbreak of fever, and each reader will decide for himself whether it was genuine pestilential yellow fever, or a malarial fever having peculiar characters imparted to it by the place in which it occurred, and the constitutional condition of its subjects, resulting from imprisonment, with its depressing and deteriorating influences. That Dr. Greenhow thought it was true yellow fever is certain; as did another "experienced and ingenious physician," whose name, however, does not appear. It is much to be regretted that one of these gentlemen did not leave us an authentic medical description of the cases. It must be presumed, however, that the account given by the *Enquirer* is substantially correct as far as it goes, since Dr. Greenhow does not question it; and it must be admitted that this account makes out a strong *prima facie* case in favor of the identity of the disease with specific yellow fever.

Yet it would not be difficult to adduce various considerations justifying a strong doubt on the subject. Without going into a formal discussion of the question, the following points may be presented: First, the inherent improbability of a spontaneous outbreak of yellow fever limited to the interior of the penitentiary, especially at a time when there was little or none of this disease elsewhere in the country—for the year 1806 was marked by a greater freedom from this pestilence than any of the thirteen years which had preceded it. Secondly, the extreme mildness of the symptoms, as compared with those of the "yellow fever of our cities." Thirdly, the very great improbability that true yellow fever, originating from local causes in a prison containing numerous convicts, should attack *only eight* of those convicts, and destroy but *a single life*. Fourthly, that the so-called yellow fever was followed (as appears from Dr. Greenhow's second letter) by ordinary intermittent and remittent fevers—which justifies a strong presumption that it was a graver form of the same class of fevers, occurring earlier in the season, and during warmer weather, that passed for yellow fever in the eyes of Dr. Greenhow and his associate.

Clinical Reports.

Hospital Reports, in the Service of J. J. Chisolm, M. D., Professor of Diseases of Eye and Ear, University of Maryland, etc. (Reported by E. A. CHANCELLOR, M. D., Assistant Resident Physician to the Baltimore Infirmary.)

CASE I.—*Symblepharon, with Successful Operation by Transfixing the Conjunctival Flap from One Part of Eyeball to Another.* Horace M., age 26, healthy constitution, came to hospital with the history of having received an injury to the right eye, caused by a spark from heated iron, while at work at a rolling-mill in the city. The molten iron cauterized destructively both lid and eyeball. After the usual swelling had subsided, it was found that the eyeball and eyelid had stuck together. Two years after the accident, the patient applied to the Presbyterian Eye and Ear Infirmary for treatment. The outer half of lower lid had stuck to the inferior and outer third of the cornea, leaving the pupillary space clear. The probe could, in a measure, pass into the lower sulcus, showing that the adhesion was not perfect throughout the entire extent of the lid surface. The eye was fixed in its position, and was incapable of moving inwards and upwards. Relief was obtained by severing the entire surface of adhesion so as to liberate completely the eyeball. This at once allowed it to move in all directions synchronously with that of the opposite side. The difficulty now was in finding mucous membrane enough to cover one of the raw surfaces, either the eyeball or eyelid; the eyeball was selected. The mucous membrane was detached at the outer canthus, following in the direction of the outer cul-de-sac between the lid and eyeball, and by appropriate sutures, was made to slide over and permanently cover that part of the surface of the eyeball from which the lid had been detached. Against this polished surface of conjunctival epithelium, the raw surface of the lid rubbed, and all danger of re-adhesion of these separate surfaces was rendered impossible. The adhesion of the conjunctival flap was united to the raw surface of the eyeball, prompt and thorough; the sutures were removed on the fourth day, and the eye possesses every freedom of motion.

CASE II.—*Excessive Ciliary Staphyloma in which the Eyeball Attained a Diameter of One Inch and a Half, with Extensive Displacement of the Recti Muscles.*—W. T., from Virginia, age 25, was injured in the right eye, fifteen years ago, by a pin.

In his neighborhood, among children, a familiar toy is made by thrusting a pin through a chinquepin, so that this solid nut forms a heavy bead, enabling this toy to be thrown to a considerable distance, and with a good deal of accuracy. In this case, it proved to be a very dangerous weapon. When thrown at him by a playmate, the point of the pin traversed the centre of the cornea, impaled the lens, and committed such injury within as to destroy sight from that time.

For fourteen years the eye, although a sightless organ, gave no trouble. Now pains began to invade it, and for the past twelve months it has caused more or less constant suffering. With the introduction of pain also began a change in the appearance and size of the eye. The sclerotic covering the entire ciliary region began to thin, and, in the course of time, permitted the choroid and ciliary coats to bulge in large hillocks of hypertrophy, fully doubling the diameters of the organs. Enucleation was the sole resource, and under chloroform, was effected at the Presbyterian Eye and Ear Infirmary. So great had been the expansion in the ciliary region, that the insertion of the superior rectus muscle was over an inch from the corneal border. By careful dissection, the ball was removed entire, which makes a very beautiful specimen of ciliary staphylomatous development.

As a curious evidence how odd cases run together, the patient had not been removed from the operating table, when a second case, of the same nature, presented itself for treatment, and took her place on the operating table, to have the eyeball enucleated, as the first patient was being taken from the operating room. The history of the second case is as follows:

Case III.—*Ciliary Staphyloma from a Perforating Injury of Cornea.*—Emma B., age 23; three years since, she stuck the prong of a fork into the left eye: the puncture was made in the central part of cornea, implicating the lens, and doing other injury. Vision was immediately lost by the accident. Recently, the eye has caused much suffering, and the ciliary region, through sclerotic atrophy, has commenced to bulge as a black staphyloma. Under chloroform, the eye was removed.

Prof. Chisolm continues to use chloroform in all of his operations, which are of daily occurrence, in the large Eye and Ear Charity Hospital which the Presbyterians have established in Baltimore. His administration of chloroform now exceeds *seven thousand* without an accident.

Case IV.—*Alopecia Palpebrarum.*—Mary E., a young girl

of 15; rheumatic tendency; otherwise apparently in good health; well grown and plump figure, suddenly had a falling of the lashes of the upper left lid. At present, no vestige of lashes exist upon the ciliary border; at the same time, there is no trace of any inflammatory action whatsoever. This upper left lid is in every respect—barring the absence of lashes—perfectly normal. The left lower lid and the two lids of the right eye have their full complement of hairs. There is no local appreciable cause why this left eyelid should so suddenly and so thoroughly have become bald, and there is every reason to suppose, from the history of analogous cases where hairs have been lost from other parts of the body in young persons, that nature will, in the course of time, re-establish the growth without aid from art.

Case V.—*A Brier Transfixing Obliquely the Substance of the Cornea.*—E. L., age 39, whilst cleaning the brush from fence corners, while aiding a friend to clear up his field, was struck in the face by a brier-bush, which the machine had cut up. He felt a particle of dust in the right eye, which gave so much discomfort, that he was compelled to seek relief, first from his friend, and afterwards at the hand of a physician. For ten weeks, he had been suffering, in spite of eye lotions, purgatives and alteratives. When he applied for treatment, a black line was seen running horizontally from the centre of the cornea to its nasal periphery, just below the inferior pupillary border. The superficial layers of the cornea had been torn, and the appearance of the dark line was that of iritic adhesion through a perforating wound of the cornea. A more careful examination with a strong lens showed the pupil to be free, the anterior chamber of full depth, and the discolored line to be a foreign body imbedded amidst the laminæ of the cornea. An operation was performed at the Presbyterian Eye and Ear Infirmary, for the removal of this foreign body, by using a very delicate cataract knife. An incision was made through the superficial layers of the cornea down to the foreign body, and the long splinter was turned out of its lid, lying upon the internal elastic lamina. In this delicate operation, the anterior chamber was not opened. The foreign body proved to be a stout black bristle from a common brier, and was nearly one-fourth of an inch long. No trouble ensued after the removal of the foreign body, and a perfect eye was regained.

Case VI.—*A Recurrent Tumor (Size of Pigeon's Egg) Lying Beneath and Parallel with the Lower Lid of the Left Eye—Removed by Injections of Acetic Acid.*—Mrs. B. C., age 69, from

Pennsylvania, has had from childhood a mole under the lower left eyelid. Twenty years since, it took on a rapid growth, and was removed by her family physician. In the course of time, a knot appeared, and has been slowly growing ever since, and is now quite painful. When she applied for treatment, an oval swelling, the size of a pigeon's egg, of a deep red color, was lying conspicuously across and just beneath the lower lid, extending from the internal to the external canthus. It was three-fourths of an inch broad and fully half an inch thick. Its surface was glossy and of a deep red tint. One portion of this surface was covered with a crust, which became dislodged from time to time, and was frequently the seat of haemorrhages. The skin was smooth, very thin and without nodules. It was at first thought that the best mode of relief from the annoyance and danger was by excision of the whole mass, and covering up the excavation by a flap of skin taken from the cheek; but on account of the extensive loss of substance needful by this process, the simpler plan of dissolving the tumor from within was adopted. Five minims of glacial acetic acid was introduced by a hypodermic syringe into the very heart of the tumor. The pain produced by it was quite sharp, but not of long duration; this injection was renewed for three successive days. In the course of time, the whole interior of the mass sloughed out, leaving a healthy wound which was cicatrizing rapidly when the patient left for home.

The Case of (transported) Yellow Fever in Richmond. By A. Z. KOINER, M. D., Richmond, Va.

Karl Yensen, in company with his wife and two children, arrived in Richmond, Va., Sept. 12th, 1878. They received funds from the Relief Committee, and rented a small house on Franklin Street. On the night of Sept. 13th, I was called to see the man. I found the family in a destitute condition. The man was lying upon the floor, and groaning aloud from severe pains in the region of the stomach and bowels, with considerable fever, and an anxious expression of countenance. He complained also of constant pain in the head and back; pulse, 95; he said he had vomited dark-colored matter during the day. I gave him a dose of bismuth and morphine, and applied a mustard plaster over the epigastrium.

A correct history of the case was difficult to be obtained.

The wife was greatly alarmed at her husband's condition, and begged not to be removed to the City Hospital. She confessed to me afterwards she thought he had the yellow fever, but was afraid for it to become known, as she feared the family would be sent out of the city.

The history of the case, as obtained from the man, was as follows: The family ran away from the quarantine in New Orleans. Near Montgomery, Ala., one child took the fever; then the other child and mother. The man said he had an attack of fever at the same time, but the statements were somewhat contradictory upon this point. They then came on to Richmond, stopping one night in Danville, Va.

I was called on the second night after their arrival. On the morning of September 14th, I found Yensen quieter than when I first saw him, but he still complained of extreme tenderness in the region of the stomach. The vomiting still continued at intervals. The matter ejected was described to be dark brown and extremely offensive; there was nothing to preserve it in, hence I did not see it at that time. I continued the bismuth and morphine, applied a very large mustard plaster over the abdomen and epigastrium, used a mustard foot-bath, &c. This treatment seemed to relieve h m very much. The evacuations from the bowels were tolerably frequent, but small and "tarry" like in appearance, and very offensive.

On the 15th, I (with Dr. G. B. Johnston, of this city) saw the matter vomited. It was dark colored, presenting the appearance of blood changed or disintegrated by the action of the gastric juice—the characteristic "coffee-ground" appearance; small amounts of blood unchanged could also be seen. The matter had a very peculiarly offensive odor. The patient said he could "smell it in his mouth" before he vomited. The pulse had gone down to 60. The discharge from the bowels were of a lighter color; no appearance of blood in the stools; tongue still very red, with white fur around the edge. He still complained of extreme soreness in the epigastric region and in the back. Headache constant, cold feet and strangury. He called for more powders, wh ich were given; gave hot mustard foot-bath, and applied hop poultice, wrung out of strong vinegar, to epigastrium. The poultice was followed with turpentine stupe. The patient's thirst was quenched by ice and water, allowed to stand awhile, with fresh tar in the bottom of the vessel.

On the 16th, the patient was much better; soreness diminished; strangury disappeared; pulse, 70; slept half of the

night preceding; mind relieved of the idea that he was going to die.

On the 17th, still improving; appetite returned, but morbid—craves anything. The nourishment, which had been iced milk, was now supplemented by wine soup.

On the 18th, improvement still progressed. The patient complained of being starved. Visitors came in, and in the goodness of their sympathizing hearts, endeavored to satisfy the craving of a morbid appetite by presenting the patient with grapes, lemon pie and raw apples. I was called in to see the patient again that night, together with Drs. Johnston, Nicolson and James, and arrived in time to find patient vomiting, immediately after which he had a marked convulsion. The matter vomited contained nothing peculiar; the patient's mind was clear up to and immediately after the convulsion. He felt easier after the convulsion, but much prostrated; temperature, 100.5 F.; specific gravity of urine, 1040; contained renal epithelium in abundance, and minute crystals of oxalate of lime. From this time, the patient's recovery was rapid and complete. All the physicians who saw the case agreed with me in pronouncing it a well-marked case of imported yellow fever.

Correspondence.

Incompatibility of Dialyzed Iron, Strychnia and Solution of Arsenite of Potash.

Mr. Editor,—I write to request you to enlighten me in regard to a re-action which took place a few days since in making a prescription as follows:

Dialyzed iron	f℥j.
Sulphate strychnia	grj.
Fowler's solution	f℥j.

M. Sig. Fifteen drops three times daily.

This tonic, made with the *muriated tincture* of iron instead of *dialyzed* iron, I have used for some time with very happy results in a number of cases, and, as I wished to give it to a lady with a delicate stomach, I substituted the dialyzed iron for the muriated tincture. At the time, there was no change that I noticed, but a few days afterward the lady informed me that she could not get the medicine out of the vial with-

out some trouble, and that when she did get a dose into a wineglass of water it did not dissolve for six or eight hours. I took the vial (a common ounce-vial, such as the druggists usually put up tincture of iron in), and had to shake it, mouth down, considerably, before I could empty it. There was no change in color or odor. Hastily,

J. Michaux, M. D.

Cedar Point Landing, Va., Sept. 14, 1878.

Buffalo Lithia Water to Prevent Albuminuria of Scarlet Fever.

Mr. Editor,—During the epidemic of scarlet fever which has been prevailing for a year in this city, and is yet scarcely ended, I have been giving my patients Buffalo Lithia Water *ad libitum*, and to the exclusion of all other water for drinking purposes. In no case, since I have pursued this course, have I seen even a trace of albumen in the urine of scarlatinal patients—either during the attack or the convalescence. With this experience in a number of cases, and hearing of favorable results in the practice of other physicians in this city who have used the same means, I have thought it worthy of a note in your journal. If this result is *propter hoc*, we are enabled to rid scarlet fever of one of its most dangerous concomitants.

There is scarcely any unusual taste to this water; hence it is not objectionable. Especially when ice is added, patients drink it with avidity. Very respectfully,

C. W. P. Brock, M. D.

Richmond, Va., Sept. 30, 1878.

Original Translations.

Translated from the German. By ARTHUR Z. KOINER, M. D. Richmond, Va.

Morphinismus and Transfusion.—(Bernhuber, *Anztl. Intelligenzblatt*, 1878, No. 6, and *Allg. Wiener Med. Zeitung*, September, 1878.) The case reported was that of a woman 25 years old, who had suffered from repeated attacks of acute articular rheumatism, and from an attack of pneumonia which

pursued a long and tedious course. For two years she had made a daily injection of from 0.150–.25 grammes of morphia sulphate. At the examination, the extremely anæmic patient presented the well marked picture of the opium habit. Especially prominent was the vomiting of all ingesta, unless morphine, if only in minimum doses, was previously hypodermically injected. Under these circumstances, every effort of the patient to do without the morphine, utterly failed, and no other remedy had the desired effect. Upon the supposition that the vomiting was dependent upon the anæmia, Bernhuber performed transfusion of defibrinated human blood. After an infusion of about 90 grammes, the operation had to be suspended on account of dyspnœa and extreme giddiness. On the following day, great improvement in the general condition of the patient was clearly perceived, but the vomiting still continued. The morphine was withheld for seven days. On the eighth day, in order to re-establish the administration of food, a subcutaneous injection of 1 milligramme of morphia was made. From this time, the condition of the patient steadily improved. The food, under nutritious treatment, was gradually better endured, and so, by transfusion, not only the anæmia, but also the opium habit was cured.

Cure of Varicocele.—Dr. Kumar (*Jahresbericht des K. K. Krankenhauses Weiden*, 1878), in the following case, applied Schede's method of venous compression for the treatment of varicocele, and in a short time accomplished the end in view, which was the complete obliteration of the entire venous convolutions. Dr. L. G. suffered from aggravated varicocele on the left side, which was of ten years standing, and for the last three years after or in consequence of a urethral blenorrhœa and consecutive cystitis, it had increased greatly in degree. The ordinary remedies were resorted to without benefit. Dr. G. suffered continual pains in the testicle and along the spermatic cord, and in the back when he was obliged to remain standing any length of time. The testicle began to become atrophied, and though the potency of the organ was not effected, yet the condition had already exercised an observable and increasing depressing influence upon the mind of the patient, as in the case with most patients similarly afflicted.

In April, the mobility of the under extremities, especially of the left side, became suddenly affected, and the patient begged for relief through operative measures. On the 15th of May, under Lister's spray, three medium sized catgut lig-

atures were passed under the plexus of veins isolated from the vas deferens, at a distance of 2 centimetres from each other, and with moderate tightness tied over a stiff drainage tube, Lister's bandage, ice bag. Except a slight swelling of the scrotal integument on the side operated upon, resulting from tying the ligatures, no other discouraging symptom presented itself. Only twice—on third and fourth day—a slight elevation of the temperature (38.6 and 38.0) was observed. The ligatures were removed after 48 hours. The plexus of veins were changed into a hard and regular tumor, which became smaller and firmer, and on the 5th of June, when the case was dismissed, only a firm chord, of a finger's thickness, remained, which was very slightly sensitive. Of the enlarged veins, which were not drawn under compression, nothing could be seen. This condition still remains unchanged.

Prof. Benedict, of Vienna, read a paper before the Anthropological Congress in Paris, in which he related the result of his examination of the brains of 19 criminals in Hungary. In every case he found the brain to be abnormal, and that, *e. g.*, the binding together or uniting of the convolutions occurs oftener and are more numerous than in normal individuals.

Bodier stated also that he had examined 36 criminals' brains at the French Anthropological Exhibition, and found that abnormities and defects existed in every case.

Broca energetically endorsed the views of both, and declared that he regarded the criminal as an abnormal creature as well in a moral as a physical sense.

Proceedings of Societies.

Baltimore Academy of Medicine.

The bi-weekly sessions of this Society were resumed on Tuesday evening, 15th October. The meeting was a large one, and a number of names were offered for membership. The fundamental clause in the constitution of this Society—viz., at least ten years' experience in the practice of medicine—as one of the qualifications for membership, ensures a gathering of experienced physicians, whose remarks upon the various topics discussed indicate practical familiarity as well as acquaintance with medical literature. This being the initiatory meeting for the winter, no formal paper had been announced.

In the regular order of business, Dr. J. J. Chisolm, as

chairman of the Executive Committee, moved that as the Society fees would exceed expenses, the amount remaining in the hands of the treasurer at the end of each fiscal year be invested as a fund to be used for the benefit of the widows and orphans of physicians. The proposition remains over for discussion at the next meeting.

Thermo-Cautery for Uterine Cancer.—When the relation of cases was called for, Dr. H. P. C. Wilson read a report of a case of cancer of the neck of the uterus, for the removal of which he had used for the first time the thermo-cautery. The knife, heated to whiteness, found its way readily through the tissues, not only cutting off but scooping out the entire diseased portion. When the operation was completed, the amputated surface represented an inverted cone, with apex near the upper os, instead of the squarely cut stump left after the use of other instruments. He extolled the cautery as a most valuable means of taking away all the diseased tissues. He was surprised to find that blood would spirt out whenever the white-hot knife would cut into the tissues, necessitating constant sponging to get rid of the steam and blood which would have obscured the manipulation of the instrument. The entire amount of blood lost in this case did not exceed an ounce, quite a contrast with his former experiences with knife, scissors or écraseur. In using the knife heated to whiteness, he had protected the vagina from injurious radiation by encasing the knife (with the exception of the last inch of the end of the blade) in a cylinder of wood. He exhibited the charred wood screen in evidence of the amount of protection he had supplied to the vagina by its use. The woman was in Sims' position, and Sims' speculum was used. Without these two adjuncts, he does not think that the thermo-cautery knife could be manipulated satisfactorily.

Dr. A. Erich suggested that the cause of the hæmorrhage was using the knife too hot. He had used the thermo-cautery in similar cases, and had found that a dull, red heat and slower progress would ensure a dryer section. He did not like the instrument for the general surgery of the uterine neck, but preferred the écraseur in all cases where serious hæmorrhage did not threaten, as in hypertrophies, &c.

Dr. W. T. Howard had never himself used the cautery, but in giving the experience of others who had used it largely, he was not disposed to endorse it with the lavish praise of Dr. Wilson. Induration and other painful conditions had resulted in the hands of others, necessitating a second opera-

tion to remove the bad effects of the first burning. He had had a large experience in the removal of the neck with the écraseur and scissors, and would prefer these methods to the cautery in cases where the epithelial development is confined strictly to the neck, without invasion of the vaginal structures. When the disease had extended beyond the strict limit of the neck, he had found the local use of chloride of zinc preferable to any other escharotic or surgical procedure.

Dr. J. J. Chisolm reported some curious coincidences of surgical practice which had occurred to him within the last few days. This morning at the Dispensary of the Presbyterian Eye and Ear Charity Hospital were found three cases of squint which followed each other to the operating table—one of internal squint, one of external squint, and one of upward squint. He referred also to Cases II and III reported elsewhere in this number under the head of *Hospital Reports*. Last week, two cases of cataract presented themselves simultaneously for operation. One, in a young man, in which the cloudy lens was the sequel of a severe attack of fever. The other, in an old man, who had for many years granular lids, leaving a ground-glass cornea. In each case, after the lens had been extracted under chloroform, hæmorrhage took place in the eye-ball from the giving way of choroidal vessels. Such an accident had not occurred to him in years out of several hundred cataract extractions that he had performed, and yet these two rare accidents followed within a quarter of an hour of each other.

Idiopathic Symblepharon.—Dr. Chisolm also reported a very rare case of idiopathic symblepharon occurring in a man 35 years of age. At the age of sixteen, he had a severe attack of skin disease, called by his family physician eczema. His entire body was involved. The skin came off in patches, leaving bleeding surfaces, which to-day show scars on his body and limbs. His eyes were much swollen and mattered freely. When he recovered from this general inflammatory attack, the lids were found adherent to the eye-ball throughout their entire extent. His present condition is as follows: The left eye has a shrunken ball; eye-lids nearly touching, and so adherent to the stump of an eye remaining that they cannot be in any way separated. The right eye looks like an old artificial eye, much the worse for wear; the corneal surface is dull, dry, with scales upon it; the pupil is dimly seen through a less ground-glass portion at its inner and lower third. In this eye, the adhesions are not seen until an attempt is made to elevate the lids. The lids are separated so

as to show nearly all of the cornea; but in this position, with the right eye opened, the entire under surface of the lids have become firmly adherent to the eye-ball. A strong magnifying glass and a fine probe can find no point that has not firmly grown to its opposite one. The puncta lachrymalia are thoroughly occluded; also, the excretory ducts from the lachrymal gland. No tear-drop has softened this eye for nineteen years. The corneal surface, in its thickened, dry condition, seems to have lost its sensitiveness, so that he washes the cornea as he does his face, and handles it with his fingers as rudely as he does his cheek. In dry weather, he is much annoyed by burning pains, which necessitates the free use of water to the eye. He came from North Carolina to have this skin, as he calls it, cut off. His family physician had tried it on his left eye and had emptied the chambers. Dr. Chisolm gave him a solution of atropia in castor oil as a daily application to the eye. By enlarging the pupil and rendering more transparent the cornea he found this application of the greatest assistance.

Dr. Howard inquired of Dr. Chisolm why he had prescribed oil instead of glycerin as a local application to the cornea?

Dr. Chisolm replied that the glycerin would have extracted the little water left in the already too dry cornea, and would have increased the discomfort. Besides, its affinity for water would render it so unstable that it would soon run away. The oil, on the contrary, would not imbibe, would remain in contact with the cornea, keeping it soft and rendering it more diaphanous. This eye, unpromising as it looked, enabled him to work on a farm.

Dr. J. Morris read a letter describing the autopsy in the case of his friend, Dr. Atlee, of Philadelphia. The same had, however, been brought to the notice of some of the Academy members through publications in the *Philadelphia Medical Times*.

Analyses, Selections, &c.

Antiseptic Surgery in Penetrating Wounds of the Knee-Joint.—Dr. Junius L. Powell, M. D., Resident Physician, University Hospital, Md., in the October number, 1878, of the *Maryland Medical Journal*, calls attention to advances made in the treatment of wounds of the knee-joint.

In order to perfectly realize the gravity of these lesions,

let us place before the reader, as a text, some lengthy extracts from their written works. "Bullet wounds of the *knee-joint*," says Erichsen, in his last and most excellent work, "are amongst the most serious injuries in surgery; and this whether the bones be much comminuted or not, provided the epiphysis of the tibia or femur be perforated, or the articulation be fairly traversed or even penetrated by the ball. *Prior to the American war there were but seven cases in which excision of the knee had been done for gun-shot injury*—five in military, two in civil practice; the two latter cases recovered, the other five died. In the American war, the operation was done eleven times. In two cases, one primarily and the other secondarily, recovery took place; *nine deaths resulted chiefly from pyæmia.* In those cases in which patella alone was exercised, death ensued. During the late war the results of excision of the knee, both primary and secondary, have been so uniformly bad that the operation for the future will probably be abandoned in military surgery. The operation would be doubtless advisable in cases of gun-shot wounds of the knee occurring in civil practice, when every possible care can be bestowed upon the after-treatment, hygienic conditions and diet of the patient; but where this is impossible, as after a great battle, it is almost certainly fatal, *contrasting most unfavorably with primary amputation in the lower third of the thigh.* When amputation is determined on, the operation requires to be performed early, not because the apparent injury may be very serve, or the mutilation of the limb so great as obviously and imperatively to call for amputation, but because experience has shown that unless the limb be removed at an early period, after consequences of the most serious and fatal character will to a certainty ensue. Extensive suppuration of the joint, deep and large abscesses burrowing amongst the muscles of the thigh and consequent exhaustion of the patient by hectic, or his destruction by pyæmia, are the conditions that amputation performed at an early state can alone avert. This necessity for early amputation in penetrating bullet wounds of the knee-joint is recognized by all modern military surgeons. Gurthrie and Larrey in the French wars, Esmarch and Stroymeyer in the Schleswig-Holstein campaign, and the surgeons in the Crimea, all found that the attempt to save the limb so injured led to the sacrifice of the patient's life."

Again, from the same work.—"Wound of the knee-joint is one of the most common and most severe of such injuries (of the joints). When the result of gun-shot violence, it im-

peratively demands immediate amputation; when produced by puncture or clean cut, the wound must be closed, and ice and *antiseptics* employed assiduously. Should suppuration occur, the joint must be freely laid open by long incisions and *commonly amputation will be required.* The abscess will commonly form deeply in the thigh rather than in the joint itself; and in a very insiduous manner. The limb swells up to the trochanters, becomes very tense, painful, hot and œdematous, with great constitutional disturbance and irritative fever. But the joint will be but little swollen and many days will often elapse before fluctuation can be felt in it or in the thigh. It is this abscess of swelling in the knee itself that may mislead an experienced practitioner. At length the abscess may approach the surface upon the knee; and on the incision being made, an immense quantity of pus is discharged. The abscess forms as a consequence of the escape of some of the irritating contents of the suppurating synovial membrane close upon the anterior surface of the femur. It crops out and surrounds the bone under the deep muscles of the limb, which are separated from the bone, and may reach as high as the trochanter before it is detected."

Every accident or incident likely to occur in the clinical history of the injuries under consideration is fully narrated in the above extracts. It is manifest that the great factor in determining the *denouément* in these cases is to be found, not in surgical dexterity in dealing with them, but in the local treatment and care of the patient. Theoretically, antiseptic surgery, as practised by Lister, would seem to offer the surest means of averting the evil consequences so much to be apprehended. The most complete statistics in this country are no doubt to be found in the office of the Surgeon General of the United States Army, furnished out of the material of our late war; but it would be a laborious task to ascertain exactly what proportion of amputations of the lower extremity, as a result of gun-shot wounds of the knee, was practised in obedience to the law which has been so firmly inculcated. The evidences of such practice are to be seen all over the land in those unfortunate subjects who are doomed for the balance of their lives to the use of an artificial limb.

Dr. C. R. Reyher, consulting surgeon with the army of the Caucasus, during the late war, has published in the St. Petersburgher *Medicinishe Wochenschrift*, March 9th, 1878, an account of the cases under his care in the campaign. Out of a total of 81 cases of wounded knee, there were 28 in which the bullet was driven into the parts. Eighteen cases were

treated from the onset by the antiseptic method—"primary antiseptic treatment." The mortality of these was 16.6 per cent. In none of the 18 treated was either primary or secondary amputation performed. The 15 who recovered, not only recovered without loss of limb, but they also recovered motion in the joint. Of the 3 deaths, one was caused by hæmorrhage from wounded popliteal artery and vein, one from lung disease (Fettembolie, fatty dengeration of lung capillaries) two days after being wounded, and one from tuberculous suppuration (of the knee), hectic, uncontrollable diarrhœa. Forty cases were, at the outset, treated without regard to antiseptic principles, *i. e.*, they were explored without antiseptic precautions, without cleansing of wound by antiseptic washes or injections, without antiseptic bandages or dressings; *subsequently* they were subjected to antiseptic treatment—"secondary antiseptic treatment." The mortality in this group of cases was 85 per cent. Intermediary amputation was performed in nine of these, of whom seven died. *Secondary amputation* was performed in twelve cases, of which nine died. One only of a total of 40 cases, treated by partial use of antiseptics, recovered with the limb saved, that limb remaining anchylosed. The 34 deaths were caused: 10 by septic inflammation, 12 by metastatic embolic pyæmia, 4 by acute diffuse suppurative arthro-meningitis, 7 by tuberculous suppuration, hectic, 1 by carbolic acid poisoning. *Twenty-three* cases were at one time treated antiseptically: of these 13 underwent secondary amputation; of the total 23 cases, 22 died, showing a mortality of 96 per cent. of those treated entirely without antiseptics. The causes of death investigated microscopically were; 3 from septic inflammation, 7 metastatic embolic pyæmia, 5 tuberculous suppuration, hectic, 1 dysentery, 1 cause unknown, autopsy having been neglected. Can anything indicate a greater revolution in the results of practice than this?

How many surgeons there are who, being interrogated as to the cause of the great mortality of injuries to the knee-joint, would fail to speak of "shock" as being one of the most potential agents in its production, though in the foregoing not one word has been said upon this point? It cannot be denied that the sudden and crushing injury done to these parts by projectiles may and sometimes does produce an impression upon the system from which it is unable to rally. But barring these cases, which are few, and directing our attention to those which pass safely over that stage, the most serious condition to be combated is that of subsequent

suppurative inflammation, and here we at once see the great advantage of Listerism. It is my opinion that too willing obedience has been rendered to our predecessors, on this subject, and this opinion was expressed in a contribution of mine which appeared in the *Virginia Medical Monthly*, in April, 1875, being founded upon the history of some cases which I had under my care during service in the United States army, stationed on the western frontier.

Book Notices, &c.

Nervous Diseases—Their Description and Treatment. By ALLAN McLANE HAMILTON, M. D., One of the Attending Physicians at the Epileptic and Paralytic Hospital, Blackwell's Island; Member American Neurological Association, etc. With 53 Illustrations. Philadelphia: Henry C. Lea. 1878. 8vo. Pp. 512. Cloth; Price $3.50. (For sale by West, Johnston & Co., Richmond.)

While reading this book for the first time, some errors of omission and commission, and some bad English—even unintelligible sentences—were marked for notice. Many pages had the appearance of careless composition and hasty proof reading. But with all the errors that were recognized, we saw so much of good in the work that a favorable notice, *in general*, was premeditated. It was, in our eyes, by no means a perfect work; but its shortcomings were, in the main, such as are found in many publications of other distinguished authors that are commended to professional favor by the best of book-reviewers. Of course, we would have pointed out the most striking errors recognized by us.

But before we had committed these impressions to paper, some of our most valued exchanges came to hand, giving the book anything but a flattering introduction to professional confidence. A re-examination of the book was then made. The result of this second reading confirmed us in the esteem we had first placed upon it. Then we made a comparative examination of the several condemnatory notices. We hope we are mistaken in the conclusion forced upon us as perhaps more than probable, namely, that a low-bred jealousy which sometimes crops out from rivalry or results from personal animosity, prompted the whole system of abuse which had been heaped upon the author and his book; and this we say without reflection upon the respectable journals in which the

reviews appeared. The wish, "Oh, that my enemy would write a book," seems to have been gratified, and revenge had an ample harvest field from which to reap its debasing pleasures. The notices of Dr. Hamilton's work found their way into several journals much earlier than is their custom to review books after publication. They were, moreover, of greater length than is usual in some of these journals. They were also abusive of the author as well as of the book, although we have reason to believe that the editors of three or four of the journals alluded to—some of them, at least—have no personal dislike of the author. In short, the general character of the three or four of the reviews have the ear marks of an adroit enemy, who has either personally or by proxy prepared one and all of these several reviews, so as to forestall public opinion and damage the sale of the book, and to injure a fellow practitioner's influence and usefulness. No complaint is made against the harshness of a single one of these reviews—a reviewer should be untrammelled in stating his opinion of any publication. But it is a wrong done the profession, as well as a mean advantage taken of an author for any *one* personal enemy to stock—directly or indirectly—several of the leading journals with essentially the same book notice, unless his signature in full be attached to his writing in order that readers may consider the source, and judge of the motives. The unsuspecting reader very naturally, under such circumstances, concludes that as so many excellent journals, *apparently* representing the views of altogether different reviewers, condemn the book, of course it is useless for him to purchase it or adopt it as an authority, when in reality *all* these several harsh notices are but the shrewd expressions of one solitary individual who seeks simply, either to give vent to his spleen at public expense, or else to build himself up by injuring others. Such a system of book reviews, besides doing gross injustice to journals, if generally adopted, would result in limiting or conforming the opinions and patronage of the profession at large to the views or wishes of one single man.

We have written thus in no partizan spirit. We enjoy no personal acquaintance with Dr. Hamilton, and know him only as thousands of others of the American profession do—as a leading authority in neurological science. We write simply under a conviction that a gross injustice has been done Dr. Hamilton and the medical profession, by a cunning *system* of reviews. But if our fears should prove to be ground-

less, what we have said will injure no individual, although it may serve as a caution to journal readers.

We are sorry to have thought it necessary to have written so much only remotely connected with the book under consideration as to leave us no space in which to give a proper view of its contents and of our high estimate of it.

The object of the author has been to present "a concise, practical book." He has laid many authorities under contribution to his purpose, and has, in the main, brought out conspicuously those points which are most essential to the *practitioner*. In the descriptions of diseases, he details a sufficient number of illustrative cases—original or quoted—to impress the important points. The definitions of disease are sometimes faulty; but the chapters on diagnosis and treatment are, with few exceptions, very excellent. The table of contents is remarkably full, which offers an advantage not to be overlooked in a general reference book on nervous diseases. Unfortunately, however, nothing is said of insanity, except in connection with the consideration of certain brain lesions. In the revised edition, which we hope will soon be called for, we trust the author will make his book more complete by the addition of a chapter on this subject. An appendix contains a list of useful formulæ.

We had made some notes regarding the subjects of epilepsy, hydrophobia, tetanus, etc., as treated of in this book, which we had wished to bring out; but we have not the space to give to them.

In summing up a conclusion as to the value of this work, we are of opinion that, notwithstanding its faults, it is the best text-book on neurology for college students and for the general practitioner that has recently been issued from the American press.

Antagonism of Alcohol and Diphtheria. By E. N. CHAPMAN, A. M., M. D., formerly Professor of Materia Medica and Therapeutics, and Clinical Midwifery; recently Professor of Obstetrics and Diseases of Women and Children, Long Island College Hospital, etc. Brooklyn: 1878. 12mo. Pp. 98. Price, $1.

Treatment of Diphtheria, Based upon a New Etiology and Pathology. By WILLIAM C. REITER, A. M., M. D. Philadelphia: J. B. Lippincott & Co. 1878. 12mo. Pp. 47. (For sale by West, Johnston & Co., Richmond.)

The first of these little books we regard as of great practical importance. It records the results of over seventeen years of vast experience in the treatment of diphtheria.

This experience, confirmed by the observations of many practitioners whom the author names, leads him to affirm with great plausibility that "Alcohol is as antagonistic to diphtheria as belladonna to opium, or quinia to malaria." Every practitioner in the country should study this essay, and give the profession the result of more general experience on the subject.

Dr. Reiter's essay copies entire the article of Niemeyer in his *Practical Medicine* (Vol. II, p. 614, *et seq*), because he differs "*in toto cœlo* from his and all other accepted authorities as to the etiology and treatment." Dr. Reiter then places his opinion in juxtaposition, "so that the reader may compare and judge." His view is, that "Diptheritis consists *in excess of fibrin in the blood.*" Hence, the tolerance and curative effect of calomel in the treatment of the disease. He uses large doses of calomel, repeated every hour until the dejections "resemble the fresh-water polyps in water-troughs, gelatinous, and of a bright dark-green hue." Dr. R. claims an experience of over 100 cases, and has "never seen paralysis, nor any other sequel to the disease, when treated with calomel." "Should prostration follow these heavy doses, you can rely on the fact that you have been mistaken in your diagnosis, and pronounced a case of follicular tonsillitis diphtheria."

The statements made in both of these little books are to be confirmed or disproved by clinical experience.

The Advantages and Accidents of Artificial Anæsthesia. By LAWRENCE TURNBULL, M. D., Ph. G., Fellow American Association for Advancement of Science; Aural Surgeon to Jefferson College Hospital, etc. With 25 Illustrations. Philadelphia: Lindsay & Blakiston, 1878. 12mo. Pp. 210. (For sale by West, Johnston & Co., Richmond.)

We have read this book with intense interest and profit. Its principal objects are—1st, to describe concisely the most available agents used as anæsthetics; 2d, to present the chief chemical tests, medical properties, &c., of the substances considered; 3d, to give directions and cautions as to the use of the several agents; 4th, to record personal experiences with the various forms of anæsthetics and inhalers; and 5th, to compare the relative mortality from all anæsthetics now employed.

In regard to the history of modern artificial anæsthesia, we had thought the paper of Dr. Marion Sims (*Virginia Medical Monthly*, May, 1877,) had established the claim of priority made for Dr. Crawford W. Long as the discoverer in 1842.

But Dr. Turnbull states that "Dr. Morton [who proved sulphuric ether to be an anæsthetic in 1846] was as much the inventor of modern anæsthesia as Jenner was of vaccination." Our conviction, due to Dr. Sims' paper, is that *Dr. Long was the discoverer.*

Dr. Turnbull is a strong advocate of ether in preference to chloroform, and he brings forward a long array of statements to sustain his preference. Were the statistics he produces all that we have on the subject, we should at once change our own choice. But there is a fact connected with this subject that we do not understand. Chloroform is the standard anæsthetic among Southern practitioners, and yet it is extremely seldom that a death from chloroform occurs in their practice. Professor Hunter McGuire, of this city, including his Confederate Army experience up to the present time, has used chloroform not less than 30,000 times; but, with the exception of the case reported in the May No., 1878, of the *Medical Monthly*, he has never had a single death. Profs. J. S. Wellford, F. D. Cunningham, J. B. McCaw, and others of this city alone, have an aggregate experience or observation, including that of McGuire, of fully 100,000 administrations of chloroform without a single other death. We hear like reports, in the main, from other Southern surgeons. Prof. J. J. Chisolm's paper (*What Anæsthetic Shall we Use?*) is quoted by Turnbull, stating a record of 250,000 administrations of chloroform with only twelve deaths—seven of which occurred in the Federal Army during the war; two at the Edinburgh Infirmary; one in the English Army; one in London; and one in Vienna. None of the twelve cases above referred to occurred in the South; and an extremely small percentage (if, indeed, any) of the "210 deaths faithfully recorded and reported, with the additional ones in this book, from chloroform," occurred in the South. The question is, Why this rarity of deaths from chloroform in the South, unless it be that, as a rule, no apparatus, except a folded napkin, is used, held several inches above the patient's face, while he is in the "lying-flat" position, and *invariably in a thoroughly ventilated apartment?* It is almost a universal practice to give an alcoholic stimulant prior to the administration. The writer of this notice was educated to prefer ether, and during his three years of hospital experience and observation in New York, used ether and saw it used almost exclusively. Hence his early prejudices were in favor of ether; but nine years of experience and observation of Southern practice have

persuaded him that when chloroform is *properly administered* there is comparatively little risk. In the opinion of the writer, sustained by the opinions of many who use chloroform, one who is in the habit of using ether exclusively should not administer chloroform, until he has learned, by observation, the proper method of using it. We regret that we have not the space in which to give a more detailed statement of the views here summarily expressed or hinted at.

With the exception of a difference in the relative estimate placed upon these two leading anæsthetics, and our objection to all apparatus, except an ordinary folded towel, for chloroform administration, and with the regret that proper prominence has not been given Dr. Long as the discoverer of modern artificial anæsthesia, we find in the book nothing to object to. On the contrary, it is a most useful book that should be carefully read by every practitioner. It gives many facts regarding these two, and the other anæsthetics that should be more generally known.

Dr. Wm. B. Gray, of this city, published in this journal (August, 1874) some observations regarding pure oxygen gas as an anæsthetic for short operations that we do not find alluded to. Indeed, this agent, as an anæsthetic, is not mentioned. The writer has never seen it used for the purpose indicated; yet not only Dr. Gray, but Drs. Judson B. Wood and Z. B. Herndon, of this city, have used it as an anæsthetic, and they testify to the correctness of the observations made by Dr. Gray in the article referred to. We have not heard of a trial of the agent in any other quarter for anæsthetic purposes. Should the observations of these gentlemen be confirmed by more general experience, a great *desideratum* has been secured, since oxygen gas is not known to be dangerous to life.

Dr. Turnbull's little volume is most cordially commended to the profession. It should be carefully studied by every practitioner. It has been handsomely issued by the publishers.

Pocket Therapeutics and Dose Book, with a Classification and Explanation of the Action of Medicines; Index of Diseases, with Appropriate Remedies; Classification of Symptoms; Poisons and their Antidotes, etc. By MORSE STEWART, Jr., B. A., M. D. Detroit, Mich., 1878. 24mo., Pp. 101. Price 50 cents.

This, as its title and size would indicate, is a most useful companion for the practitioner. It contains, in addition to what is stated in the title, many useful hints to the prescriber.

The writer has found frequent use for the copy now in his possession, and the book would prove useful to others, if properly used, in emergencies to refresh memory.

Treatment of the Genito-Urinary Organs, the Use of Electricity, Damiana, etc. (Reprint from *St. Louis Medical and Surgical Journal*, June, 1878), and **Involuntary Action of the Nervous System.** (Read before American Dental Convention, August 17th, 1877), both by Dr. JOHN J. CALDWELL, Baltimore, Md.—are pamphlets of much practical interest to the profession.

We regret that want of space allows no mention at present of other publications received.

Editorial.

Medical Society of Virginia.—The ninth annual session convened in Richmond October 22d, and adjourned on the night of October 25th—the most profitable and interesting session ever held. One hundred and twenty-eight active fellows were in attendance, besides Drs. Lewis A. Sayre, of New York, Robert Battey, of Rome, Ga. (who, with Dr. John T. Metcalf, of New York, were elected Honorary Fellows), B. P. Anderson, Colorado Springs, Colorado, Chas. H. Sayre, New York (who were present by invitation).

Although the Hall was filled with physicians and visitors, the rainy weather prevented the attendance of many ladies who would have been present to hear the able and practical address of Dr. M. G. Ellzey, of Blacksburg, to the Public and Profession, and also the eloquent and suggestive address of the President, Dr. John Herbert Claiborne, of Petersburg. Our limited space allows us no opportunity to attempt a synopsis of either of these addresses, which will be published in the *Transactions*, to be issued by January 1st, 1879.

During the second day, a most interesting paper by Dr. Benj. G. McPhail, Acting Surgeon U. S. Army, Camp Verde, Arizona Territory (a Fellow of the Society, and unable to be present) was read by the Secretary. Its title was "Climatic Influences and Health Resorts in the Western Territories." The paper was referred to the Publication Committee.

Dr. W. L. Baylor, of Petersburg, read a report on "Arsenic in Subnitrate of Bismuth," based upon examinations

and experiments—an authoritative paper. Referred for publication.

Dr. O. F Manson, of Richmond, stated that he had not been able to complete his report on "Hæmorrhagic Malarial Fever," but would do so possibly in time to be presented to the Committee on Publication, or else it would be published in the *Virginia Medical Monthly* in an early number.

After a lengthy discussion, which was continued Thursday, a resolution, offered by Dr. James B. McCaw, of Richmond, was adopted to the effect that a Commission of ten Fellows be appointed to report on the "Therapeutical Value of the Mineral Waters of Virginia"—said commission not to be composed of any Resident Physician at any of the Springs. The President (Dr. Joynes) on Friday announced the following gentlemen to compose the Commission: Drs. J. B. McCaw, Richmond; William Selden, Norfolk; W. C. N. Randolph, Charlottesville; J. S. Apperson, Smyth county; M. G. Ellzey, Blacksburg; S. W. Carmichael, Fredericksburg; M. P. Christian, Lynchburg; J. S. Wellford, Richmond; A. M. Fauntleroy, Staunton; O. F. Manson, Richmond.

Dr. B. P. Anderson, of Colorado, by invitation, read a paper on the "Influence of Colorado Climate upon Health and Disease," which mentioned many facts of great practical interest to the profession. He differed in opinion with Dr. McPhail in several particulars, based upon different fields for observation, etc. The paper was ordered to be published.

On motion of Dr. W. W. Parker, Richmond, the Society availed itself of the benefit of a resolution adopted at its last annual session, namely, to select the place of subsequent meetings regardless of invitations, paying its own necessary expenses at such places, and selected Alexandria as the place for the session 1879. The hall and date of meeting are left to the appointment of the Executive Committee after proper consultation.

At 2 o'clock P. M., the Society adjourned to attend a clinic at the Retreat for the Sick. The principal case was one requiring ovariotomy, which was well performed by Dr. Hunter McGuire. Full reports of the case will hereafter be published.

During the night session, Dr. Alban S. Payne, Markham Station, read a lengthy report on the "Diagnosis of Small Pox, before the Eruption, by the Pulse," which was referred to the Publishing Committee.

Dr. L. S. Joynes, Richmond, read a valuable paper on the "Importance of Quarantine against certain Diseases, espe-

cially Yellow Fever. The report closed with resolutions declaring that quarantine ought to be conducted on substantially uniform principles at all ports of entry; that in order to secure uniformity, the quarantine system should be under the control of the General Government instead of being made dependent upon the Legislatures of nineteen different States, or the conflicting ordinances of a still greater number of cities and towns; that a copy of these resolutions be sent to the Governor of Virginia and our senators and representatives in Congress. This paper was duly referred to the Publishing Committee.

After adjournment, the Society, by invitation, visited the house of Dr. Hunter McGuire, where a magnificent supper was served.

During Thursday morning's session, the Committee on Necrology, through the Acting Chairman, Dr. L. S. Joynes, reported that during the year 1877–8, Drs. Joseph B. Whitehead, of Norfolk, R. L. Madison, of Lexington, R. H. Harris, of Norfolk, J. W. Poindexter of Charlottesville, E. M. Campbell, of Abingdon, and William F. Figgatt, of Christiansburg, Active Fellows, and Dr. Paul F. Eve, of Nashville, Tenn., Honorary Fellow, had died. Sketches of their lives were presented and referred to the Publishing Committee.

Dr. W. W. Parker, of Richmond, Chairman of the committee to whom was referred the memorial on the previous day for the establishment of a Public Health Board, reported the following resolutions, which were adopted:

1. That the objects proposed by the said memorial are highly approved by this Society.

2. That a committee of five be appointed to bring this subject before our next General Assembly, and ask for the passage of a resolution requesting our senators and representatives in Congress to aid in such legislation as will accomplish the objects and purposes of said memorial.

The report was adopted. The President (Dr. Joynes) appointed the following gentlemen to compose the committee: Drs. W. W. Parker, Richmond; J. L. Cabell, University of Virginia; S. K. Jackson, Norfolk; J. G. Cabell and George Ross, Richmond.

Election of Officers.—Dr. Cullen, from the Committee on Nomination of Officers, presented the following report, which was adopted:

President: Levin S. Joynes, Richmond.

Vice-Presidents: Drs. M. M. Lewis, Alexandria; Herbert Nash, Norfolk; E. B. Ward, Smyth; W. P. McGuire, Win-

chester; James C. Green, Danville; Gabriel McDonald, Monroe.

Recording Secretary: Dr. Landon B. Edwards, Richmond.

Corresponding Secretary: Dr. Christopher Tompkins, Richmond.

Treasurer: Dr. Landon B. Edwards, Richmond.

Committee on Nominations: Drs. James B. McCaw, Richmond; Thomas J. Riddell, Richmond; M. M. Walker, Richmond; W. S. Stoakley, Bay View; J. S. Tipton, Hillsville.

Executive Committee: Drs. W. W. Parker, Richmond; N. H. Burks, Blue Ridge Springs; H. G. Leigh, Petersburg; Benjamin Blackford, Lynchburg; Thomas B. Ward, Norfolk; Recording Secretary and Treasurer *ex officio*.

Committee on Publications: Drs. F. D. Cunningham, Richmond; L. S. Joynes, Richmond; Otis F. Manson, Richmond; Recording Secretary and Treasurer *ex officio*.

Honorary Fellow, Dr. Robert Battey, of Rome, Georgia, by invitation, read the "Report of a Case of Occlusion of the Entire Utero-Vaginal Canal, followed by Labor, with Distressing Sequelæ of Unrelieved Menstrual Molimen—Battey's Operation—Cure—Remarks," which excited unusual attention and commendation. The paper was ordered to be published.

At 2 o'clock P. M., the Society adjourned to the "Retreat for the Sick," to attend a Clinical Lecture by Dr. Lewis A. Sayre. After a lecture, especially on Potts' Disease and Lateral Curvature of the Spine and an incidental explanation, already several times published, of what he means in stating that such diseases, including hip-joint disease, etc., are due to injury, Dr. Sayre next proceeded to "put up" several cases in his plaster-of-Paris-jackets—one with the "jury mast—all successfully and to the pleasure and edification of the crowded amphitheatre. Full reports will appear in the forthcoming volume of *Transactions*.

During the night's session, Dr. Wm. R. Weisiger, of Manchester, in the Senate Chamber of the Capitol, made a demonstration with microscopes of some of his recent investigations in histology, etc., with explanatory remarks, and also presented a paper on the subjects of which he spoke. After a vote of thanks, the paper was referred to the Publishing Committee.

On presentation by Dr. M. M. Walker, of Richmond, an amendment to the constitution was adopted, to the effect that, commencing with this session, all Ex-Presidents of the Society, elected to Honorary Fellowship, shall be expected

to pay the regular annual assessments assessed against active fellows.

The Report of a Case of Hydrophobia, by Dr. Gabriel McDonald, of Monroe county, W. Va., was read by the Secretary, in the absence of the author, and it was, on motion, referred to the Publishing Committee.

The subject for discussion, "Etiology of Typhoid Fever," having been called up, the Recording Secretary read a paper on the subject by Honorary Fellow, Dr. A. M. Fauntleroy, of Staunton, and another on the Treatment of Typhoid Fever by Salicylic Acid, by Honorary Fellow, Dr. James L. Cabell, of University of Virginia.

Friday morning, the Treasurer, Dr. Landon B. Edwards, reported for the year just ended $636.56 receipts, and $994.48 expenditures. Upon his motion, his books were referred to an auditing committee. The President appointed Drs. W. C. N. Randolph, of Charlottesville, J. N. Upshur, of Richmond, and W. C. Conway, of Rapidan.

Dr. J. Herbert Claiborne, in a graceful speech, resigned the Presidential chair to his successor, Dr. L. S. Joynes, who returned thanks for the honor done him, and assumed the duties of office.

Dr. John Herbert Claiborne was, on motion, unanimously elected an Honorary Fellow.

On nomination by Dr. T. J. Riddell, of Richmond, Dr. Oscar Wiley, of Catawba, Roanoke county, was elected to deliver at the next annual session the Address to the Public and Profession.

Dr. Wm. L. Robinson, of Danville, read an instructive paper on the "Use of Oxygen Gas in the Treatment of Diphtheria," which was referred to the Publishing Committee.

Dr. Wm. H. Bramblett, of Newbern, Va., read an important paper on the "Comparative Uses of Sulphate of Quinia and Sulphate of Cinchonidia as Antipyretics and Antiperiodics," which was also referred to the Publishing Committee.

The subject of Typhoid Fever being called up, during the discussion of which the meeting adjourned last night, Drs. R. L. Barret, of Louisa C. H., C. W. P. Brock, of Richmond, and S. K. Jackson, Norfolk, made remarks, which will appear in the *Transactions* of this session.

Dr. J. S. D. Cullen, Richmond, read the report on "Advances in Diseases of Women," which was referred to the Publishing Committee.

Dr. R. T. Coleman, Richmond, read the report on "Advances in Obstetrics," which was referred to the Publishing Committee.

Dr. Wm. D. Hooper, of Liberty, read a paper on "Certain Diseases of the Knee-joint," and in connection therewith exhibited a leg and thigh splint of his own invention. The paper was referred to the Publishing Committee.

Honorary Fellow Dr. L. A. Sayre, in commenting upon the paper and the instrument, remarked that the splint was well-nigh perfect.

Dr. J. G. Skelton, Richmond, read the report on "Advances in Diseases of Children," which was referred to the Publishing Committee.

On motion of Dr. L. B. Edwards, the Recording Secretary shall have the privilege of appointing an Assistant Recording Secretary. Dr. Edwards then appointed Dr. Chas. S. Brittan, Richmond.

Dr. W. C. N. Randolph, of Charlottesville, Chairman of the Auditing Committee appointed to examine the Treasurer's report, reported the Treasurer's books correct, but suggested some improvements in book-keeping to facilitate the examination of books by the Auditing Committees of future years. The Society is in debt $357.92. The Committee also presented a resolution directing the Secretary to drop from the rolls all persons who may be delinquent in the payment of their dues ninety days after the presentation of their accounts by the Treasurer. The report created considerable discussion. Dr. Randolph stated that there was about $700 on the books of the Society due from members who are able to pay, and if they pay up there need be no further embarrassment. The resolution was adopted.

Dr. Cullen offered a resolution looking to the more prompt presentation of reports by committees.

On motion of Dr. Parker, the day and hour for the next meeting was left to the Executive Committee.

On motion of Dr. Wellford, "Antiseptics and Disinfectants" was selected as the subject for discussion at the next meeting of the Society.

Dr. M. L. James, of Richmond, read a paper of great practical interest on the "Curability of Consumption." Referred to the Committee on Publication.

The usual thanks customary on such occasions were returned, and the Society adjourned to the banquet hall.

Never has any State Medical Society had a more profitable meeting, as shown by the number and titles of papers pre-

sented, and the names attached as authors. The attendance of Fellows was larger than it has ever been at any previous meeting, and a new zeal seems to have been imbibed by the profession of the State generally. The visit of such distinguished Honorary Fellows as Drs. Sayre and Battey, and their able contributions to the proceedings of the session, were highly appreciated, and won for the visitors many lifelong, earnest friends among those who had formerly admired their genius, and wondered at their marvellous successes recorded in books and journals on every hand. Nor was the visit of Dr. Anderson less appreciated—coming, as he did, from the far West, in response to invitation, and his paper was highly prized by all who heard it, as it will be by those who may read it when published in the forthcoming *Transactions*. Dr. Chas. H. Sayre made no contribution in the form of a paper to the session, but was of invaluable assistance to his father in the demonstrations which he made at the clinics, and to many resident physicians who had cases requiring the appliance of means for which his father is so distinguished as the author.

It is to be hoped that the advances made at this session, in the matter of professional effort and organization, will be kept alive for years to come. There was never anywhere presented a more striking illustration of the benefits of the thorough organization of the profession of a State than in the magnificent and practical results of this session of the Medical Society of Virginia.

This great success was not so much attributable to the fact that Richmond was the place of meeting, as to the fact that special effort was made to bring talent to the session. Any city or town in the State may have as profitable meetings by making entertainments and banquets and carriage rides of altogether secondary importance. Let the measures adopted for securing to the profession the great profit resulting from the session in Richmond be somewhat an index to the local committees of arrangements in other cities as to how they can make the future sessions of the Society equally attractive and beneficial.

In Dr. Cutter's article in this number, it should have been stated that micro-photographs of the asthmatos ciliaris, taken by and from Dr. Cutter, have been deposited in the United States Army Medical Museum at Washington, objectives $\frac{1}{16}$th, $\frac{1}{50}$th and $\frac{1}{75}$th.

Prize of $25 for a Paper on Masturbation.—A distinguished teacher of extended experience in schools and colleges, convinced that enormous evil—physical, mental and moral—results to youths from the habit of masturbation, and that this self-destructive practice develops, in a large number of cases, because of *gross ignorance* of its *physical evils*, and lack of a clear appreciation of its *moral wrongfulness*, desires to do what he can to save the youths of Virginia from this form of self-destruction. In order to attract the study of the more philanthropic of the medical profession, the gentleman referred to offers a *prize of twenty-five dollars* for a truly worthy paper, approximating eight (octavo) printed pages in length. The object is to impress boys especially with a horror of the vice by setting forth, clearly and forcibly, *firstly* the *physical and mental ruin* which results from the habit named; and, *secondly*, the *moral guilt* incurred by the practice. The paper must set forth the evils, from a medical stand-point, in the most forcible style, and must be adapted to the comprehension of youths of twelve years of age and upwards. The paper must be in the hands of the gentleman before February 1, 1879. Address "A B," Randolph Macon College, Ashland, Va. The gentleman reserves the right of editing the paper selected for publication, and of amending or of adding to it. The paper selected will be printed in a pamphlet form and distributed *gratis* in all the boarding schools of the State, and as far as practicable, among all other youths.

Every physician of extended experience recognizes the importance of this subject; but, strangely, there is very little available literature regarding it, except as penned by quacks and charlatans for purely selfish ends. It is hoped the suggestion above noted will occasion a proper record of facts to to be useful. "While no representation, however strong, may avail to reclaim the enslaved votary of this dreadful vice, yet many, now free, may be saved from becoming its captives, and some less strongly bound, may break their fetters" by reading such an essay as is here desired.

American Public Health Association.—The eighth annual session will be held in Mozart Hall (8th street, between Grace and Franklin streets), Richmond, Va., November 19th–22d, 1878. The following will be the order of business:

Reception of Report of the Commission investigating the History of the Epidemic of Yellow Fever, submitted by Dr. J. M. Woodworth, Surgeon-General of the United States Marine Hospital Service.

Reception of the other Reports and Records of this epidemic—from all sources.

Reception of other Reports and Communications on the Epidemics and Sanitary Experience of the Present Year.

Announcement of the contributions of information and the presentation of communications from members of the Association, State boards of health, municipal sanitary officers, and others.

Members of this Association residing in Virginia, the Governor of the State, and other citizens, have tendered ample facilities for the meeting.

Eminent public men from the South and from the chief cities in our country have promised attendance, and medical and sanitary authorities, and other citizens who seek to promote the public health, are cordially invited to participate in the deliberations, to be wholly devoted to sanitary matters of State and national importance.

The secretary of the Association is Dr. Edward H. James, of New York. Dr. J. Grattan Cabell, Richmond, Va., is chairman of the Local Committee of Arrangements.

Having so much overrun 80 pages in July, October and November numbers, our future numbers of the current volume may not have 80 pages.

Obituary Record.

Dr. Dan Preston Payne, of Markham, Fauquier Co., Va., died at his home during the latter part of September, 1878. He was a young man of much promise in the profession—especially in the field of surgery. His untimely death was mourned by a large circle of relations and friends.

Dr. E. T. Easley, of Little Rock, Ark., has recently died of yellow fever in Memphis, Tenn. Proceedings of the Alumni of the University of Louisville, relating to his death, are crowded out until December number.

Dr. Wm. F. Figgat, of Christiansburg, Va., one of the leading practitioners in Southwest Virginia, died at his home October 14, 1878. His death is a loss to the profession and the community in which he was so popular.

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RICHMOND, DECEMBER, 1878.

Original Communications.

ART. I—**The Relation of Electricity to Disease—Electro-Physiology—Electro-Diagnosis.** Lecture II. By A. D. ROCKWELL, A. M., M. D., New York, Member of the American Neurological Association Electro-Therapeutist to the N. Y. State Woman's Hospital, etc.

[Continued from page 632, November No., 1878.]

ELECTRO-PHYSIOLOGY is a subject of such extent and intricacy, that it is not a little embarrassing when there is such brief space for its consideration, to decide what method of presentation will best illustrate its value as a guide to the study of electro-therapeutics.

Animal electricity, although interesting and instructive, I shall not attempt to elucidate here. The most that I shall attempt will be: 1st, To state some facts (all of which I have myself verified) in relation to that peculiar modification of irritability that nerves and muscles undergo when acted upon by the galvanic current. 2d, To consider the action of the galvanic current on the brain, spinal cord, great sympathetic and pneumogastric. 3d, Its action on the nerves of special sense. 4th, The action of both the faradic and galvanic currents on the voluntary and involuntary muscles. 5th, Their effects on nutrition.

1st, *Electrotonos.*—When, by means of two electrodes, the galvanic current is applied along the course of a nerve, that portion between, as well as a limited portion outside the poles, is said to be in an electrotonic state, and that part of

the nerve not included between the poles will deflect the needle of a delicate galvanometer. In other words, there becomes manifest a modification of the natural nerve current.

When the galvanic current and the nerve current flow in the same direction, the strength of the latter is increased, while its strength is decreased if the electric current flows in an opposite direction.

There are two modifications of the electrotonic condition, termed, respectively, anelectrotonos and catelectrotonos. *Anelectrotonos* is a condition of diminished irritability taking place at and near the positive pole or *anode;* while *catelectrotonos* is a condition of increased irritability taking place at and near the negative pole or *cathode*.

Somewhere between the poles, there is a part called the *neutral point*, where anelectrotonos meets catelectrotonos. If the strength of the current is medium, the neutral point is found midway between the poles; if the current is weak, the neutral point is nearer the positive pole; if it is strong, nearer the negative pole.

When an irritable nerve is brought under the influence of a rapidly interrupted galvanic current, the nerve-current gradually diminishes in strength until it is finally destroyed. Nothing is better established in physiology than the above fact; and yet, paradoxical as it may seem, when a nerve, through injury or disease, has quite lost its irritability to the faradic current, it frequently regains it after several applications of the galvanic.

In addition to these phenomena, due simply to the current passing in a *single* direction, we have other physiological effects, due to changes in the current, caused by closing, breaking or reversing. When the electrodes are applied to a nerve, and the current closed, we observe a momentary contraction, proportionate in vigor to the tension of the current. While the current is flowing continuously, no contractions take place; but immediately on breaking the circuit, if the current be not too weak, muscular contraction again occurs.

The following is the statement of what physiological experiment has taught:

1st. The mildest currents applied to a nerve cause con-

traction only on closing the circuit, independently of direction.

2d. Currents of medium strength cause contraction both at the opening and closing in both directions.

3d. Strong descending currents cause contraction only at closing the circuit, while strong ascending currents cause it only at opening.

Although it is impossible to illustrate these laws by experiments on the living man, they can be readily verified on the fresh nerve of an animal. In experimenting on oneself, or on others, the strongest current that can be well borne, produces the effect only that follows the application of a very mild current directly to the nerve—viz., contractions only on closing the circuit independently of direction. Another effect of electrotonos is the change of irritability which is caused by a change in the direction of the current. If a nerve is subjected for some time to the influence of a galvanic current in a certain direction, it loses some of its irritability, which it regains when the current is reversed. One noticeable result of the passage of the *continuous* galvanic current through an exhausted nerve is the marked refreshing effects which follow; the nerve is, for the time, restored to its usual tone and level.

2d, *Action of the Current on the Brain, Spinal Cord, &c.*—It has been shown by Fritsch and Hitzig, using the galvanic current, followed by Ferrier, using the faradic, that there are centres in the cerebral convolutions for the production of voluntary muscular movements in various parts of the body. In these experiments, the applications were made directly to the substance of the brain; and interesting as they are, and as worthy of study, the practical gain to electro-therapeutics through such investigation amounts to but little. As practical men, we are most interested in knowing what external applications will accomplish. Physiological experiment has simply taught us, and clinical experience has confirmed the teaching, that very mild currents of galvanism, when externally applied, will directly, and not alone by reflex action, affect the brain. If it were possible in our treatment of diseases of the nerve-centres, to localize the action of the cur-

rent, it can readily be seen what increased facilities would be ours in dealing with certain pathological conditions. This, unfortunately, we cannot do; but as clinical experience has shown very conclusively the excellent results that follow simple external applications, it remains for us to utilize, so far as possible, this method. When we come to consider the action of electricity on the spinal cord and sympathetic, we find that there is ample ground for speculation, and room for a wide diversity of opinion.

It is no very difficult matter to expose the spinal cord in the living animal, and to show that the direct application of galvanism is sufficient to throw the muscles of the trunk and of the extremities into violent contractions. It is as easily demonstrated that if the cord be traversed for some time by the current, that portion which is under the electrical influence, finally becomes insusceptible to all forms of stimulus, mechanical or electrical. A so-called inhibitory effect is produced. Finally, it is agreed, that when the faradic current is applied directly to a certain portion of the cord near the sixth cervical vertebra (centrum cilio-spinale), the excitation is transmitted to the cervical sympathetic nerve, and thence to the radiating fibres of the iris which it animates; similarly, by electrization of that part of the cord which traverses the fourth lumbar vertebra (ganglion genito-spinale), it is possible to induce very appreciable contractions of the vasa differentia, the bladder and rectum.

It is exceedingly difficult, however, to determine just to what extent it is possible to affect the spinal cord in the living man, by simple external applications. Yet, that it can be directly influenced and brilliant therapeutic results obtained, has been sufficiently attested. The cilio-spinal centre just mentioned is between the sixth and seventh cervical vertebræ, as can be demonstrated by external applications both of the galvanic and faradic currents, and is of great importance in general faradization. To a certain extent, yet not so decidedly, the ganglion genito-spinale can be directly affected—at least, by the galvanic current.

The effects of electrization on the exposed sympathetic nerve are so familiar as scarcely to need mention. In brief,

it has been observed time and time again, that the condition of redness and injection of the conjunctiva, ears and nostrils, contraction of the pupils, secretion from the mucous surface of the eyes, &c., that follow division of the cervical filaments of the sympathetic nerve, entirely disappear when the cephalic extremity of the cut nerve is submitted to electrization. The effect, therefore, of direct galvanization of the cervical sympathetic is to contract the arterioles, through the medium of the vaso-motor nerves. Galvanization of the inferior cervical ganglia of the sympathetic, as well as of the superior thoracic ganglia, accelerates the heart's action, while powerful galvanization of the six lower dorsal ganglia, and the splanchnic nerves to which they give rise, diminishes the peristaltic action of the intestines. Mild galvanization, on the contrary, has been found to increase the peristaltic action.

The effects of direct electrization of the *pneumogastric* vary with the strength of current used. If strong faradic currents are employed, coughing and vomiting are the result; while currents of medium strength produce sudden inspiration and forced expiration. Arrest of respiration is liable to be the result of galvanization of the laryngeal branch of the pneumogastric.

In attempting now to consider the effects of external applications to the sympathetic and pneumogastric of the living man, the same difficulty confronts us, as in the case of the brain and spinal cord. We cannot accurately localize the current in these nerves or any of their ganglia. A current of sufficient strength to appreciably affect the cervical sympathetic, necessarily at the same time influences, more or less, the pneumogastric, the depressor nerve and the cord.

The effects of external galvanization of the sympathetic are not altogether uniform, but many trials have shown that a very constant effect of this method of operation—one electrode being placed in the mastoid fossa, and the other over the seventh cervical vertebra, is a slight and occasionally a profound feeling of drowsiness, together with a feeling of warmth through the system, accompanied by perspiration, and a decided effect on the pulse. In several cases, I have observed profound sleep, induced within a minute from the

beginning of the application. The eyes would close, the head would drop and nod, and when the electrodes were removed, the transition from drowsiness to a wakeful condition would be slow, very much the same as is observed when one is awakened from a deep and natural sleep. In other cases, on the removal of the electrodes, the person would awaken immediately and become fully alive to his surroundings. These different phenomena were, of course, the result of varying idiosyncrasies. If we accept the theory that in sleep there exists a condition of cerebral anæmia, it is not difficult to believe that the slight feeling of drowsiness that so frequently follows galvanization of the sympathetic, and even of the brain, is in part, at least, due to a diminution of the blood supply. At all events, this result, which is so grateful and restorative in many nerve disorders, is constantly achieved in the experience of every practically competent electro-therapeutist.

3d. *Action of Galvanism on the Nerves of Special Sense.*—The galvanic current, applied so as to affect the retina or optic nerve, either directly or reflexly, causes flashes of light and perception of color. The faradic current, according to the method of its application, when applied in the ear, causes a humming or rumbling sound—due in part to susurri of the muscles.

The auditory nerve reacts to the galvanic current by certain fixed laws, which, although interesting, and to a certain degree instructive, cannot be considered here. It may be said, however, that the auditory nerve reactions harmonize with the law of electrotonus and Pflüger's contraction law as already enunciated.

On the gustatory nerve, the action of galvanism is to cause a metallic taste more or less marked. The perception of the metallic taste is frequently an important aid as a guide in the treatment of cases.

On the olfactory nerve, the action of the current is less marked, but the negative pole of a strong galvanic current, when applied to the Schneiderian membrane, is followed by an odor somewhat resembling sulphuretted hydrogen. While only the galvanic current exercises a constant and uniform

influence over the retinal reaction, in certain sensitive conditions, the faradic current produces unmistakable flashes of light; and when the apparatus is constructed so as to give forth certain qualities of current, as in the single coil machine, these glimmerings are peculiar and brilliant.

4th. Action of Electricity on the Voluntary and Involuntary Muscles.—Contractions of voluntary muscles are induced in two ways: 1st, By acting on the motor nerve. 2d, By acting on the muscle itself. In the latter case, it is simply necessary to place the electrodes at either end of the muscle, when, through excitation of the muscular and intra-muscular nerve fibres, contractions more or less powerful take place. By this method we obtain contractions only of that muscle, or that portion of muscle, included between two poles. By pursuing the first method, however—placing one pole over the point where the motor nerve is most superficial, and the other over the muscle or muscles supplied by its branches—we not only obtain stronger contractions, but, at the same time, influence every muscle to which the nerve terminals run.

These motor nerve points are of much importance, especially in carrying out the details of localized faradization in the treatment of paralysis, and have been thoroughly studied by Ziemssen, who experimented on the recently dead subject, and marked with nitrate of silver the points at which the individual nerves and muscles most readily responded to faradization. With a fair knowledge of anatomy, however, any one, by a little experimentation on himself or a friend, can readily obtain sufficient information for most of the purposes of therapeutics. In this investigation, one large moistened sponge electrode should be firmly placed on some indifferent point, and a small negative electrode, as large as a silver half dollar, pressed near the point where the nerve is supposed to issue from the muscle. If the right point is touched, the normal physiological action of the part affected will at once appear. It is impracticable here to give the situation of all the motor points in detail. Those who wish for helps to aid them in prosecuting this study will find in Ziemssen's *Die Electricitat in der Medicin*, a most complete array of illustra-

tions of the motor points. The following, however, are the situations of some of the most important:

Facial.—At its exit from the stylo-mastoid foramen, between the mastoid process and the angle of the lower jaw.

Pneumogastric.—At the lower and anterior part of the neck, between the common carotid artery and the jugular vein.

Phrenic.—At the outer border of the sterno-cleido-mastoid muscle near its junction with the clavicle.

Brachial Plexus.—In the supra clavicular space, posterior to the outer border of the sterno-cleido mastoid muscle.

Median.—In the lower third of the arm, at the point where it crosses the brachial artery.

Radial.—In the lower third of the arm, at the point of its emergence from beneath the triceps.

Popliteal.—On the posterior border of the capitulum fibulæ.

Tibial.—On the middle and outer part of the knee, and also in the depression posterior to the internal malcus.

Involuntary Muscles.—The action of electricity on involuntary muscular fibre is quite different from that on voluntary muscles. In the latter, contraction takes place immediately on closing the circuit. In the former, movements are not induced until a certain time after the tissue has been acted upon. In the case of voluntary muscles, after the removal of the excitation, all contraction ceases, while with involuntary muscles, the movements that are excited by electricity continue for a long time after the cessation of the current.

The transverse and longitudinal fibres of the *stomach* are readily influenced by either galvanization or faradization; and in a number of instances have I had occasion to observe the readiness with which this phenomenon is demonstrated in the living man, by applications directly to the mucous surface of the part. If the current is applied to the intestines of an animal recently killed, contractions take place in the physiological direction of the peristaltic movements, until their calibre is nearly closed. These effects are induced in a less degree, by external applications, or by the introduc-

tion of one electrode in the rectum, and partly explains the great value of electricity in the treatment of constipation.

When the *bladder* is subjected to electrization, a visible drawing and contraction take place, and its cavity diminishes. In cases of paresis and paralysis of the bladder, the value of this treatment has been often shown.

The *uterus* also contracts very much after the manner of the intestines, whether it is or is not in a gravid condition. The practical application of this physiological fact is seen in the benefit that accrues from the use of electricity in uterine engorgements, in menorrhagia, enlargements, &c.

The iris, spleen, ureters, vas deferens, epididymus, tunica vaginalis, gall-bladder, œsophagus, heart and blood vessels are also more or less susceptible to the influence of electrization.

5th. Nutrition as affected by Electricity.—The effects of electricity on nutrition are exceedingly complex; but in the light of a somewhat extended clinical experience, I can confidently assert that, as a result of its varied physiological effects, we obtain tonic results of a most decided character.

Up to the year 1866, it was generally assumed that the main, if not the only action of electricity, was that of a stimulant. Soon after this, in a number of papers in the *New York Medical Record*, by Dr. Beard and myself, the idea of the tonic action of electricity was first enunciated, and the method of general faradization, by which this effect is best obtained, was fully described.

The influences that aid nutrition and thus produce tonic effects, are four, viz: mechanical, physical, chemical and physiological; and although all enter more or less as factors in bringing about constitutional tonic effects, yet the mechanical and physiological actions are mainly efficacious.

The mechanical effects are most markedly appreciated under the faradic current, as is quite evident from its nature. Physiological effects are produced by either current, although the galvanic frequently acts most powerfully here, and especially in exciting the process o absorption. By it, the secretions may either be increased, diminished, arrested, or their quality modified. The usual effect is to increase both

secretion and excretion; but when *very mild* currents are used, their activity is not always increased, and experience teaches that in the healthy organism *very strong* currents may produce a partial arrest of these functions. Very interesting effects of electricity become apparent when applied in certain pathological conditions. In menorrhagia, instead of increasing the flow, its tendency is to decrease it. In enuresis it acts powerfully in decreasing the excessive waste; while in suppression of urine, some very remarkable results have been recorded. The spermatic fluid is increased by galvanization, as is also the secretion from the sweat glands.

The whole subject of the relation of electricity to nutrition is of immense importance, and I regret that I have neither time nor space to thoroughly consider it. I will merely add that the effects of the faradic current are very powerfully illustrated in the person of those who are constantly (by the method of general faradization), applying it through their own persons. In this way the current passes through both arms and vigorously contracts the muscles, causing a marked and rapid development.

Electro-Diagnosis.—The art of electro-diagnosis has been subject to more or less investigation for many years; but only until lately has it assumed a position of importance in practice. This is owing to the labors of a number of careful observers, who have suggested and verified certain uniform reactions on the healthy nerve and muscle. By *polar reaction* is meant the measure of muscular contraction that follows the application of the positive (anode) or negative (cathode) pole to a nerve or muscle.

In hastily considering this department of my subject, I can only refer to some of the principles on which electricity is used as a means of diagnosis in medicine. The success and satisfaction with which special applications of these principles are made, will depend upon the thoroughness of after observation and experience. Now, although contractions occur only on closing or opening the current, yet we distinguish four kinds designated by the following abbreviations 1st. C. C. C.; 2nd. A. O. C.; 3rd. A. C. C.; 4th. C. O. C.

The first is the *cathodal closure contraction*, and occurs when

the cathode, or negative pole, is applied to the nerve or muscle, and the current closed.

The second *anodal opening contraction*, occurs when the anode or positive pole is applied to the nerve or muscle and the circuit opened.

The third *anodal closure contraction*, occurs when the anode is applied and the current closed.

The fourth *cathodal opening contraction*, occurs when the cathode is applied and the current opened.

The readiness with which these various contractions are induced relatively to each other, depend altogether upon the strength of the current, and the condition of the nerves, whether diseased or healthy. If on the healthy nerve or muscle, the negative pole is pressed, and a current of sufficient strength employed, it will be found, that on closing the circuit, a contraction takes place. In order, however, to induce a contraction of the same vigor on opening the circuit, it is necessary that the strength of the current be increased. Each one can readily confirm this statement for himself, and by experimenting thoroughly, it will be found that contraction in the healthy muscle occurs in the order just given.

In diseased conditions, however, this formula is subject to great variations. The readiness with which a muscle contracts to electrical influences may be increased. This occurs in certain cases of hemiplegia associated with an irritative lesion; and in the early stages of facial paralysis due to the action of cold associated with a rheumatic diathesis. In these cases, the intra-muscular nerves are attacked from the beginning, while there is but little if any alteration of the muscular fibres. The faradic current causes contractions through the intra-muscular nerves; therefore in cases such as the above, its power to produce muscular contractility is lost. The galvanic current acting more especially on the muscular fibres, retains its power, and, as experience shows, a milder current will cause contractions than is found necessary for the healthy muscle. As the patient improves, it takes an increased tension of galvanism to cause the same effects, until finally farado-muscular contractility becomes manifest. Again the readiness of contraction may be decreased and finally abolished,

as in the late stages of bulbar paralysis; occasionally in paralysis following acute diseases, in myelitis and in progressive muscular atrophy.

The above are termed *quantitative reactions*, consisting, as has been stated, in a simple increase or diminution in the quickness of response to a current of given strength. Qualitative, which includes as well quantitative changes—in other words termed the "*Reaction of Degeneration*"—consists in an alteration in the order of occurrence of the contractions. These changes are observed in any form of traumatic paralysis, where the continuity of the nerve has been completely interrupted; in rheumatic paralysis associated with compression at some point of the nerve; in lead palsy; many forms of infantile paralysis; in spinal paralysis where the grey matter is much involved; in progressive muscular atrophy; in some cases of neuritis; bulbar paralysis; in cases of pressure on the nerve by tumors or cicatrices, &c., and in some paralyses the result of acute diseases.

The normal formula becomes, in the above cases of paralysis, subject to the following changes: The negative pole at its closure (C. C. C.) becomes as weak or even weaker than the positive (A. C. C.); and the positive pole at its opening (A. O. C.) becomes weaker than the negative at *its* opening (C. O. C.) At the same time the contractions become weaker and less rapid than in health. When the circuit is closed, the contractions are also liable to become tetanic, while rapid interruptions of the galvanic current utterly fail to call forth any response.

By the same principle which has been our guide in the enunciation of the preceding diagnostic signs, viz.: the fact that the electro-muscular contractility is more or less modified by disease—we may also utilize the currents for the detection of malingerers and for deciding between real and apparent death.

By recollecting again that all parts and organs of the body are more or less sensitive to the electric current, and that this sensitiveness is modified by disease, we are oftentimes enabled to point out the seat of derangement, although the special nature of the disorder must be determined by the ordinary means of differential diagnosis at our command.

ART. II—**Nature and Treatment of Fever—Remedies which Check Oxidation Directly.** By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

[Continued from page 640, November No., 1878.]

It is evident from what has just been said with reference to the causes of hyperpyrexia and the manner in which it is regulated, that antipyretic remedies are to be divided into several classes, according to their *modus operandi*. It is no easy matter to make a satisfactory classification, and I am fully aware of the imperfections of the one which I am about to propose, but it has seemed to me, after careful study, to be the best.

1. *Remedies which Check Oxidation.*

A. *Directly.* (a) By irritating the inhibitory heat centre of Wood. (?)

(b) By *immediately* interfering with the dissociation of oxy-hæmoglobin.

B. *Indirectly.* By lessening the amount of blood in the heat-producing and, a result which may be brought about,

(x) By contracting the capillaries in that area.

(y) By dilating the vessels in the heat-losing area.

(z) By diminishing the force and frequency of the heart's action.

2. *Remedies which increase the heat-loss by dilating the blood vessels of the skin, and increasing the amount of perspiration secreted.*

Many of the antipyretics act in several ways to reduce the temperature. For example, salicylic acid checks oxidation, lessens the frequency of the pulse, and frequently promotes a free flow of perspiration. Under such circumstances, the remedy will be considered only under one class, but all of its modes of action, so far as known, will be referred to.

The remedies which check oxidation directly were divided into two sub-classes; but we are ignorant of any medicine which acts by increasing the activity of the inhibitory heat-centre or nerves, if such exist; and hence it will be ne-

cessary to place all remedies checking oxidation *directly*, in the same list. The following are the most important:

Salicylic acid and its soda salt.*
Quinine.
Alcohol.
The mineral acids.
Hydrocyanic acid (Binz).

Salicylic Acid and its Compounds unquestionably possess antipyretic properties in a very great degree. There is, however, a direct difference of opinion as to their *modus operandi.* Buss† denies that it checks oxidation in any degree, and states that, although in health it has but little diaphoretic power, it is by far the best diaphoretic we have for fever. Binz‡, on the contrary, says that "its curative properties are due to the direct arrest of certain fermentative processes, which we must regard as the exciting cause of various diseases." He states, furthermore, that it reduces the power of many forms of protoplasm to absorb oxygen; and he quotes Fürbringer to the effect that it has been found to "check septic and pyæmic, but not inflammatory, fever in animals." He considers the fall of temperature independent of any change in the pulse or respiration; but notices the fact, which is doubtless familiar to every one who has used the remedy, that it frequently causes a free flow of perspiration. In spite of the views of Buss, based on carefully conducted experiments, which are given in detail in his book, there can, I think, be no doubt that salicylic acid checks oxidation to a considerable extent. A fall of temperature often occurs *without* sweating.

Proposed at first when given internally as a remedy for acute articular rheumatism (which is still considered its most important field), it has come to be used in hyperpyrexia from every cause; and by many competent observers, salicylic acid and its soda salt are placed before all other febrifuges in point of activity and value.

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*Buss, as we shall state more fully when considering the salicyl compounds, denies that they check oxidation, and classes them with the diaphoretics.

†*Op. cit.*, pp. 67 to 72, and 165 to 190.

‡*Elements of Therapeutics*, p. 218.

Köhler,* after a careful physiological investigation of both the acid and its soda salt, considers it superior to either cold bathing or quinine as a means of lowering the temperature.

Franz Riegel† quotes Buss to the effect that salicylic acid must be given in twice as large a dose as quinine to produce the same antipyretic effect. Riegel's own investigations, however, seem to show that there is a much more important difference between the two drugs than the relative dose. He states that salicylic acid reduces the temperature lower and more rapidly than quinine, but that its effects are more transitory.

Buss‡ had previously observed that while the antipyretic effect occasionally lasted twenty-four hours, it often passed off much earlier. Further investigations by various competent persons have confirmed the views of Riegel with respect to the relative action of the two drugs.

There is, however, some difference of opinion on this point. Buss‖ claims that the depression of temperature from salicylic acid is just as great as when quinine is used, and lasts as long; and he states, very truly, that it is free from the disagreeable symptoms which are produced by large doses of quinine.

There are some other interesting points of a practical nature to which Buss calls attention, in the article to which we have just referred. A feature of the salicyl remission which he considers characteristic, is the rapid fall and equally rapid rise again. He gives some valuable hints also as to the time at which salicylic acid should be administered to produce its full effect; and his remarks on this point apply equally to the other members of this class. If given an hour or two before the morning remission, he states that much better results are attained than when given when the fever is at its height. The greatest depression of temperature when a single dose was given was found by Buss to recur five hours afterwards.

Moeli,§ who made a number of investigations in the Ros-

Centralblatt für die Med. Wissenschaften, 1876, No. 35.
†*Sep. Abdr. aus der Berliner Klin. Wochenschrift*, 1876.
‡*Berliner Klin. Wochenschrift*, 1875, Nos. 50 and 57.
‖*Deutsche Archiv. für Klin. Med.*, Band XV, Heft 5 and 6.
§*Deutsche Archiv. für Klin. Med.*, Band XVII, Heft 6.

tock clinic in 1876, advised that the medicine be given between six and seven o'clock in the evening. After this time, the temperature rarely rose at all for four or five hours, and at that time a second dose was given, which caused it to fall by 1 o'clock to 38°.5 Cent. in severe, and 38.° Centigrade in mild cases. In this way he thought the temperature in mild and moderately severe cases of typhoid fever might be kept below 39.° even in the later stages of the disease.

Considerable difference of opinion seems to exist as to the dose in which salicylic acid should be given. Moeli gave his patients at Rostock from five to seven and a-half grammes (75 to 112½ grains) at a dose. Köhler* states that 5 grammes (75 grains) given once or twice in the twenty-four hours will produce a prompt and decided fall of temperature. Buss† states that the usual dose given by him was from 4 to 8 grammes; but he says that even in doses of 10 grammes no ill effects were produced, except some roaring in the ears and a slight feeling of nausea. In Traube's clinic, according to Stricker,‡ the usual method of administration in rheumatic cases was to give from one-half to one gramme every hour; but in one of the cases detailed we find five grammes given at a single dose. Leonhardi-Aster§ also gives it in small doses for rheumatism, but he gives as much as five grammes under some circumstances. Nearly all the German physicians, so far as I can judge from the papers to which I have had access, give these large doses, and but few seem to have found any inconvenience or unpleasant symptoms resulting therefrom.

In a few instances, it is stated that ulcerations of the mucous membranes may occur as a result of the administration of large doses. Salicylic acid itself seems unquestionably to produce such a result when given in large doses, even when perfectly pure. In a discussion before the Société de Biologie, January 27th, 1877, M. Leven stated that, in his opinion, the acid should only be given in typhoid fever in very small doses, and that it would be better not to give it at all.

Sep. Abdr. aus der Deutsche Zeitschr. für Prakt. Med., 1 76.
†*Loc. cit., and Ueber Wein. und Behandlung des Fiebers*, p. 178.
‡*Berliner Klin. Wochenschrift*, Nos. 1 and 2, 1876.
§*Le Progres Médical*, No. 5, 1877.

At a subsequent meeting of the same Society on February 24th, 1877, M. Benjarmin* said that as a result of experiments on animals, he had found that while the acid exerted an irritant effect, its soda salt was entirely free from such properties.

In this country and England the dose usually given is much smaller than that recommended by German writers. Bartholow† says the dose of the acid is from 10 to 60 grains, and the soda salt from 15 to 60 grains. Wood does not mention the dose. Farquharson‡ states that the acid may be given in the dose of 20 grains every hour for six hours in rheumatism, but he does not mention its use at all in other forms of fever. A mode of administration which has been recommended, and which has proved very effective in my hands, is to give 10 grains of salicylate of soda every hour till from 30 to 60 grains have been taken—the quantity depending on the grade of fever and the effect produced. A still more effectual plan is to give two or three doses of salicylate of soda, and then 15 or 20 grains of quinine. We shall refer to this again when treating of the latter drug.

A case of acute poisoning by salicylate of soda has been reported by Petersen,‖ in which over 400 grains of the drug was taken in a few hours by mistake. The case terminated in recovery.

Salicylic acid resists decomposition in the organism, is eliminated by the kidneys, and may be detected in the urine as late as fifty-two hours after the last dose is taken.—(Binz.)

The cases in which salicylic acid and its salts are especially useful, are those in which the skin is dry, the temperature elevated above 102°F., and there is much headache. This latter, which is so often made worse by quinine, is usually quickly relieved by the salicyl preparations. In phthisis and erysipelas, as well as in acute rheumatism, it seems to act much better than quinine (Binz); but when the skin is bathed in a profuse perspiration, and the patient, in spite of an ele-

Le Progres Médical, No. 9, 1877.
†*Mat. Med. and Therapeutics*, p. 517.
‡*Guide to Therapeutics*, p. 365.
‖*Deutsche Med. Wochenschrift*, January 13th, 1877.

vated temperature, seems greatly depressed, the salicyl preparations are inferior to others of their class.

A word with respect to *salicin* will complete the salicyl series. Like salicylic acid, salicin reduces the temperature in fever, but nothing like so surely or so powerfully as the acid, and hence it has not come into general use as an antipyretic.

Quinine.—When we consider the length of time during which quinine has been used freely by physicians all over the world, it appears strange that its febrifuge properties should not have been recognized earlier. It is true it has been used with success in intermittents and remittents for generations; but no one seems to have thought of using it in other forms of fever; and, indeed, until comparatively recently it was considered inadvisable to administer it during the febrile stages. To the German school, and especially to Liebermeister, belongs the credit, in great measure, of establishing its antipyretic properties. This distinguished physician declares that he has used it in at least ten thousand cases* of hyperpyrexia, from various causes, and considered it the best febrifuge known at the time he wrote (1874).

There is much greater unanimity of opinion as to the mode of action of quinine than of the salicyl compounds. All writers agree that it checks oxidation. Buss,† in his experiments, found that a few hours after a full dose of quinine was given, there was a marked reduction in the amount of carbonic acid excreted. He remarks on the fact, which has been observed by all who have experimented with this drug, that, in the healthy subject, full doses cause little or no depression of temperature.

Some difference of opinion has existed with respect to the manner in which oxidation is checked. Naunyn and Quincke are of opinion that quinine acts by stimulating the (hypothetical) inhibitory heat centre. But the experiments of this party, as well as those of Binz, show that it still causes a fall of temperature in many cases after the cord has been cut. Binz‡ himself is inclined to attribute the antipyretic action

* *Ziemssen's Cyclopædia*, vol. I., p. 214.
† *Op. cit.*, pp. 74, 76 and 190, 199.
‡ *Virchow's Arch.* LI.

more to its direct effect on the tissues than to its nervine action. It has been found by a number of different observers that a solution of quinine prevents the dissociation of oxy-hæmoglobin, and the experiments of Albert Schmidt*, under Preye's direction, have shown that quinine prevents the dissociation of oxy-hæmoglobin by fungi, but not that through brain and liver substance. Buss states that the diminution in frequency of the pulse and respirations in fever cases is much greater after the use of quinine than of salicylic acid; and he quotes Briquet to the effect that the blood pressure is also considerably reduced in the larger arteries.

It has been observed that quinine, in large doses, frequently acts as an irritant to the stomach and bowels, and this should be remembered when it seems indicated, in other respects, in certain cases of typhoid fever.

Whatever be its exact mode of action, there can be no question as to the febrifuge properties of the drug. The *Transactions of the Clinical Society of London*, for 1870, contain the report of a Committee to investigate the subject, the substance of whose conclusions was, that large doses of quinine have a marked effect in reducing the temperature in pyrexia, the reduction lasting from one to forty-eight hours. They state, further, that there is no direct evidence of any injury resulting from the doses given. Its action is modified by a number of circumstances. Certain diseases show a very marked resistance to it; Buss mentions erysipelas, croupous pneumonia, acute articular rheumatism, and the suppurative fever (Eiterung's fieber) of small pox.

The mode of administration is of the greatest importance. Liebermeister states that the whole quantity (from 22 to 45 grains) must be given within an hour, and it is not to be repeated in less time than 24 hours. Another point which he considers of importance is, to give the quinine at nightfall so that the effect of the medicine and the morning remission will come together. It reaches its maximum of action in from 8 to 12 hours, according to Buss and Leibermeister; Bartholow says in about 5 hours. It is eliminated by the kidneys chiefly, and the elimination takes place quite rapidly. The effect of

* *Centralblatt für die Med. Wissensch.*, No. 46, 1874.

quinine comes on more gradually than that of salicylic acid, and lasts longer.

A mode of treatment for hyperpyrexia, attended with dry skin, &c., which has given excellent results in my hands, is to give three or four ten-grain doses of salicylate of soda, at intervals of an hour, and then, one hour after the last dose, to administer twenty grains of quinine. This mode of administration greatly prolongs the antipyretic action of the salicylate of soda, and the dose of quinine is not large enough to give rise to any apprehension. The deafness and unpleasant nervous symptoms so often observed after large doses of quinine, can be, in great measure, prevented by giving it in combination with hydrobromic acid, or by giving the acid soon after the quinine.

The cases in which quinine is especially serviceable are those in which the skin is bathed in perspiration, and the hyperpyrexia is due rather to increased formation than to the deficient discharge of heat. In a case of ephemeral fever recently under my charge, in which the skin was bathed in a profuse perspiration, while the thermometer rose to 105.6F. in the axilla, twenty grains of quinine at bed time, and twenty on awaking in the morning, with ten-drop doses of tincture of digitalis every four hours, gave most excellent results.

When there is much headache or delirium or excitement, quinine should be given with great caution. Care should be exercised in its administration also, when there is any tendency to irritability of the stomach and bowels. Bartholow states that he has never seen it do any good in typhoid fever, and does not approve of its use in this disease. The majority of physicians, however, who have tested its merits in this disease, speak very favorably of it, and it cannot be considered at all dangerous in cases in which it is applicable.

The dose for an adult is from 15 to 45 grains (Buss), in solution or capsules. For a child from 1 to 2 years old, 4½ to 15 grains; 3 to 5 years old, 7½ to 15 grains; 6 to 10 years old, 9 to 18 grains; 11 to 15 years old, 9 to 30 grains. (Hagenbach, quoted by Buss, in foot note, p. 195.)

Alcohol.—It is only comparatively recently that the antipyretic properties of alcohol have been discovered; and even

now it is the common opinion with the unprofessional and even with some physicians of the old school, that it tends rather to cause an elevation than a depression of temperature. Dr. Kane, Dr. Hayes and other travelers in Arctic regions, observed, however, that persons who used alcoholic liquors stood the cold badly; and it is now placed beyond all question that, in large doses, alcohol causes a very decided fall of temperature. Most recent writers agree on this point, and the observations of the late Dr. Todd,* made more than 20 years ago, before thermometers had come into use, show most conclusively the beneficial effects of alcohol in fevers. Its *modus operandi* as a febrifuge is two-fold—it lessens the heat production and increases the heat loss. It is a familiar fact that alcohol, taken in considerable quantity, dilates the blood vessels of the skin and causes a free flow of perspiration. Its action as a depressor of heat formation is equally decided, if not so well known, and Binz has shown that it causes a depression of temperature in animals whose body heat is above the normal, after section of the spinal cord in the neck, thus showing that its apyretic action is not brought about through the nervous system.

There is considerable difference of opinion as to the effect of alcohol upon the oxidation of the tissues, however, and the consequent discharge of urea and carbonic acid. Buss† states, on the authority of a number of competent observers, that there is a marked diminution in the excretion of carbonic acid, Binz‡ says, that "we shall probably not be very far wrong in assuming that alcohol, even in non-poisonous doses, lowers the activity of those cells which are concerned in the processes of tissue change." He remarks also on the fact that it increases the heat loss. Farquharson§ states that it lessens the amount of carbonic acid given off and lowers the temperature, by causing a "partial arrest of the oxygen-bearing function of the red blood corpuscles". Unless givin in toxic doses, alcohol stimulates the heart's action and at the

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* *On Acute Diseases*, pp. 297–308.
† *Op. cit.*, p. 200.
‡ *Elements of Therapeutics*. p. 66.
§ *Guide to Therapeuties*, p. 87–88.

same time, as previously stated, dilates the capillaries in the heat-losing area.

There is another point with respect to the physiological action of alcohol which has been much disputed of late years, and about which there is still some difference of opinion, namely, whether it is a food. Time and space will not permit us to go into any lengthy examination of this question. The best authorities now agree that it is, in part at least, burnt off in the body. Binz* is very positive in the assertion that it is completely burnt off in the system; and in a later paper† he strongly advises its use as a means for furnishing force for the mechanical work of the body. Wood‡ quotes Dupré to the affect that alcohol furnishes nearly five times as much force as an equal weight of lean beef, and states that by this calculation two ounces of alcohol or four ounces of good spirits ought to furnish force sufficient to carry on the mechanical work of the body for twenty-four hours.

We have gone thus far into the consideration of the physiological action of alcohol in order to judge better of the class of cases in which it will be especially useful as an antipyretic. It should be clearly understood, however, that as a *simple* antipyretic, when the object is to reduce temperature only, it is very inefficient, and should always be given along with other antipyretic agents. The class of cases in which we should judge from the physiological properties and in which clinical experience also shows it to be most beneficial are those in which the heart's action is weak and rapid, the skin and tongue being at the same time dry and harsh. It is especially indicated when, along with the high temperature, there is rapid wasting and an inability to take and retain nourishment in sufficient quantity. Some years ago I attended a lady whose only nutriment for more than a week consisted in one teaspoonful of brandy and one of meat juice every alternate hour, and the administration of sweet oil by inunction. Since it has been determined that the waste of the body in health is slight and that the food is merely *burnt*

**Centralblatt*, 1875, p. 371.
†*Practitioner* May, 1876.
‡*Therapeutics*, &c., p. 131.

off on the muscles,* the value of alcohol as a food has become much more apparent. As an adjuvant to other remedies it is applicable to a very larger class of cases of hyperpyrexiæ, and Binz states† that "there are certain diseases—for instance, traumatic erysipelas and puerperal peritonitis—in which even large doses of quinine may completely fail, while alcohol induces a distinct fall of temperature." He says that in the hectic fever of consumption the temperature is somewhat lowered by it, and the patients pass better nights and perspire less profusely. (The perspiration in these cases is due to exhaustion; hence the value of alcohol.)

If, however, the heart's action be full and strong, and the cheeks flushed, and if the patient complains of headache, it should be given with great caution, or withheld altogether. Delirium is not always a contra-indication to its use; indeed, it is often highly serviceable in such cases. In cases where the liver or kidneys are congested or inflamed, it should be given with extreme caution.

The *dose* of alcohol cannot be as definitely stated as that of the other remedies which we have considered. The best guide is the effect produced. As a general rule, from two to four ounces of alcohol, equivalent to from four to eight ounces of brandy, in the twenty-four hours, will be amply sufficient. The maximum quantity is usually placed at sixteen ounces of brandy (Farquharson).

A point much insisted upon by many writers on the subject is never to allow alcoholic stimulants to enter the stomach save in combination with food.

The Mineral Acids have been employed for a long time in the treatment of fever. Dr. Milner Fothergill‡ says, "there exists no manner of doubt as to their practical efficiency to control high temperatures," but as to their mode of action, he states that "as yet we know nothing."

Binz§ states that the administration of acids lessens internal combustion, "because many substances only combine with oxygen when in an alkaline solution."

See address by Rev. Dr. Houghton before the British Med. Assn. in 1869 *on Relation of Food to Work*, &c.

†*Op. cit.*, p. 68.

‡*Practitioner's Handbook of Treatment*, p. 97.

§*Elements of Therapeutics*, p. 223.

Considerable difference of opinion exists as to the kind of acid which is most efficacious. Many physicians prefer nitro-muriatic; but it is probable that the special form is of little moment, unless an astringent effect is desired, in which case sulphuric acid is the best. This is especially to be recommended in cases attended with diarrhœa. It would seem to be indicated also in those cases which are accompanied with profuse sweats; but practical experience does not confirm the theoretical views on this subject, and there are various other agents much more active under these circumstances. A combination of quinine with aromatic sulphuric acid is frequently employed.

Hydrocyanic Acid is recommended by Binz,* though so far as I know it is employed very little, if at all, in this country, and it is very rarely used as a febrifuge by German writers. Binz states that even very small quantities of the acid interfere with the exchange of gases in the blood. The drug allays nervous irritability, and has been used with success as a remedy for persistent vomiting and nausea. It would possibly prove a useful febrifuge in cases attended with trouble of this sort. The extremely poisonous properties of the drug, however, will always prevent its coming into general and frequent use. The dose of the dilute acid is from one to five drops, which may be repeated every four or six hours.

[TO BE CONTINUED.]

ART. III.—**Remarks on the Water and Mass from the Bedford Alum and Iron Springs, Va.** By JOHN W. DILLARD, M. D., Bedford Springs, Va. Resident Physician. (Read before the Medical Society of Virginia, October 23d, 1878.)

The apology that I offer for appearing before you on such an unusual subject, is to be found in the fact that, up to the present time, the therapeutic value of the waters of the Bedford Alum and Iron Springs has been but little known to the profession.

My personal acquaintance with Bedford Springs is based

Op. cit., p. 221.

upon a residence there during the summer and fall of 1878. I do not intend to claim, upon this short connection, complete acquaintance with the effects of the water and mass, for which years of close study and observation would be required; but, I think, I am in a position to carry out the intention with which this paper was conceived, which was to direct attention to the analysis of the water and mass, to show the class of cases in which this analysis would indicate the use of the water and mass, and to confirm the below theoretical deductions, by facts which have been repeatedly observed.

This remedy, of course, is not a nostrum. It has been extensively used in the treatment of obstinate, chronic affections, with marked success, for more than twenty-six years. Medical gentlemen of eminence bear testimony to its wonderful curative powers; and, unlike many mineral waters, it retains its curative properties throughout every season of the year.

The mass or salts obtained by evaporation of the water may be re-dissolved and used to advantage, when the water is not accessible. The water has a distinctly acid reaction. It has a rather pleasant, astringent, ferruginous taste. The composition consists chiefly of aluminum, iron, magnesium, potassium, sodium, calcium, lithium, manganese, ammonium, free sulphuric acid, etc.

It will be observed, by reference to the analysis, that the most active ingredients are the ferric and ferrous sulphates of aluminum and magnesium, together with the free sulphuric acid. From this analysis, it will be seen that the water is a strong chalybeate (20 grains of iron to the gallon), of the astringent sort (24 grains of alum to the gallon); or, in the language of Dr. Moorman, an aluminous, sulphated chalybeate, with aperient properties. It also contains 12½ grains of magnesium to the gallon. The effects of the laxative are increased by combination with iron sulphates and free sulphuric acid. The other salts doubtless contribute alterative and tonic effects, which should be taken into consideration.

These salts exist in a state of free dilution, and Dr. Fothergill, in speaking of the value of free dilution in the administration of remedies, says: "It is often remarked that natural

waters of the chalybeate and alkaline classes effect good results, when similar remedial agents, given medicinally, have distinctly failed; and, that, too, after long and persevering trial, the amount of water makes the difference."

If we reckon from the analysis, we find evidence of astringent, tonic, aperient, alterative and diuretic qualities of this water. It would seem, therefore, to be especially indicated in cases of debility, accompanied by insufficient action of the bowels; to abnormal conditions of the blood, whether due to the presence of new and toxic elements, or to the absence of those which are essential to health.

I have seen happy effects from the use of this water in obstinate cases of dyspepsia and chronic diarrhœa, and above all, in uterine and female pelvis diseases. Perhaps its greatest benefit will be experienced in the affections last named, for which it is, theoretically, admirably adapted, corresponding closely with combinations of remedies which are so frequently and beneficially used by the profession. The effects of the water correspond with what might have been expected from a knowledge of its ingredients. It increases the appetite, promotes digestion, gives tone and vigor to the muscular system, increases the proportion of red corpuscles in the blood, as shown by the redness of complexion, lips and tongue, a fuller and stronger pulse, and a general exaltation of the organic functions.

Should the water be injudiciously and excessively continued for a long time, a plethoric condition may be induced; which manifests itself in a flushed face, headache, and other unpleasant sensations about the head. I have also observed nausea, purgation and a slight disposition to drowsiness in a few cases. These symptoms, however, seldom occur, unless some important organ (as the liver), is in a state of torpor, and the water too freely used.

It is a fact, not without interest, that the benefit derivable from the use of this water is not always apparent during the time that invalids are here, but often exhibits itself or become manifest after they have returned home.

I deem it, therefore, proper to say that so potent a remedy requires some caution in its administration to invalids suffer

ing with unequivocal symptoms of disease. Invalids should use this, as they ought to use other active agents, under the supervision of a competent physician; and not allow themselves to fall into the common error of taking copious draughts, immediately upon their arrival, when the system is frequently deranged from the fatigue of the travel.

Among the cases under my observation was one of chronic diarrhœa, which, after having exhausted the best medical skill in the land, has been entirely cured by the judicious use of this water.

Mr. S. M. Davis, of Moscow, Tenn., fifty-one years of age, and of a bilious-sanguine temperament, in 1873 was attacked with chronic diarrhœa, after having recovered from a spell of cholera morbus. Up to that time he had always enjoyed remarkably good health. The diarrhœa was attended with frequent and copious discharges, of a mucus character, which were occasionally tinged with blood. These symptoms continued almost unremittingly for five years, sometimes amounting to twenty discharges in twenty-four hours. He remained at home for the first year, under the care of a skilled physician, without any material benefit, but was then advised to "travel for health." During his peregrinations, he visited, in Alabama, the Bailey, the Red Sulphur, and the Healing Springs, the Iuka Springs in Mississsippi, and the Hurricane Springs in Tennessee. He took the "salt baths," and afterwards was treated by the physicians of an infirmary in Ohio. During all this time he had received no benefit, but was rapidly declining. He was then brought to the Bedford Alum and Iron Springs, in Virginia, on the 25th of June, 1878. The prolonged attack of sickness had reduced the patient in weight from 150 pounds to 90 pounds. At this time he was literally a walking skeleton. He commenced the use of the Bedford Alum and Iron water in small quantities, but had to discontinue it because of the nausea and disturbance of the bowels which it produced. A small quantity of diluted water was then used as an enema, once or twice a day, with benefit, for about eight days, when he again commenced drinking the water in teaspoonful doses two or three times a day—gradually increasing the quantity afterwards. He soon began to improve, and in three weeks more fattened at the rate of two pounds a day, which rate of improvement continued for about ten days. He has been gaining flesh ever since, and now weighs 160 pounds, and is, to all appearance, the very picture of health.

Many other cases, showing cures of chronic disease, could be enumerated, but I will refrain, from fear of consuming too much of your valuable time.

The surroundings at the Bedford Springs offer the best means possible for the enjoyment of hygienic advantages. The place is justly famed, so far as its acquaintance extends, for its salubrious air, its cool nights, and its exemption from the mosquito.

ART. IV.—**Ether versus Chloroform—Bromide of Ethyl.** By LAWRENCE TURNBULL, M. D., Aural Surgeon Jefferson College Hospital, Philadelphia; Author of the work on the *Advantages and Accidents of Artificial Anæsthesia*, etc.

Pure sulphuric acid is, without doubt, the most perfect anæsthetic we possess for use by the physician and the general surgeon. The proofs of its safety are full and complete. In the city of Philadelphia alone, it has been used, with but one exception, since its introduction, in 1846, up to the year 1878. In these thirty-two years, at least from three to five times a day it has been employed by the nine hundred and sixty-seven regular physicians. These 11,660 days, multiplied by three, would give us 34,980 administrations without a single primary death, and only one recorded secondary death (see p. 54 *Advantages and Accidents of Artificial Anæsthesia**).

If sulphuric ether is made from pure materials, and washed with care, it is superior to all other anæsthetics in its freedom from irritation of the stomach, and in protracted and dangerous operations, provided the usual caution is observed—*i. e.*, not to take any solid food, except a biscuit or cracker, with a glass of wine, or a small quantity of brandy or whiskey and water, for six hours prior to the inhalation.

To show that it can be used for the most delicate operation on the eye, it is stated by Dr. Carter, the distinguished ophthalmic surgeon of London, that he employs ether with perfectly satisfactory results in all operations on the eye as regards the spasm of the muscles, and without the appearance

*Lindsay & Blakiston, 1878.

of any symptoms to indicate a possibly prejudicial action. This testimony is corroborated by all the ophthalmic surgeons of our city.

In our own experiments, where a small quantity of liquid food had been taken before the inhalation, the proportion of cases in which vomiting occurred was only one in fifty. Dr. David Webster, of New York, states, in his cases taken indiscriminately, and not adopting the important caution, "that vomiting occurred once in forty-two cases." In thirty persons etherized by the late Dr. J. Morgan, of Dublin, sickness of the stomach occurred in only two cases. In twenty-six reported by Surgeon-Major Porter with the ether made in England, by the action of sulphuric acid on alcohols made from potato and wood spirit, vomiting occurred in ten cases, owing to its impurities.

By comparing the careful statistics collected in the United States by Prof. Andrews, of Chicago, and those of England by Dr. Richardson, of London, with the still more recent researches of the writer, the proportion of deaths caused by ether is less than one in 24,000. A recent and careful writer, Dr. Dawson, of Leeds, England,* on "Deaths from Ether," makes the following statement, the analysis of the reports of death under ether being drawn up, not with the intention of comparing them with those under chloroform—it being presumed that the former has fully established itself as by far the safer anæsthetic:

"Again, from the annual report of Professor Bardeleben's clinic in Berlin, for 1876–7, we learn that deaths from chloroform occurred in that year four times among twelve to fifteen hundred narcoses. In all four cases, a small amount of chloroform was used when death occurred. These accidents, as well as an exceedingly large number of troublesome narcoses, caused the Professor to abandon chloroform and use chloral and ether. All narcoses since have been free from complications."†

In certain cases where sulphuric ether is objectionable, bromide of ethyl or hydrobromic ether, a new anæsthetic ($C_2 H_5$ B.), might be substituted. I made my first experiments

**British Med. Journal*, March 2d, 1878.
†*Chicago Medical Journal and Examiner*, October, 1878.

with it in 1877,* and again a more extended series in 1878, and found it to have a very agreeable odor, pleasant taste, and, when inhaled, it produced rapid anæsthesia, with one-half the quantity required of sulphuric ether. Two surgeons have used this ether at my suggestion, and performed most of the minor operations with entire satisfaction. This ether was discovered by "Serullas in 1827," and employed by Robin (*Compt. Rend.*, XXX, 9,669), and by M. Rabuteau (*Comptes Rendus*, vol. LXXXII, p. 1,294, 1867) on animals, but I was the first to employ it on man (see p. 76 *op. cit.*)

ART. V.—**Two New Splints—(I) "Cylindrical Coaptation Splint" for Arm or Leg—(II) "Ulnar-Radial Interosseous Splint."**
By A. SPEIRS GEORGE, M. D., Richmond, Va.

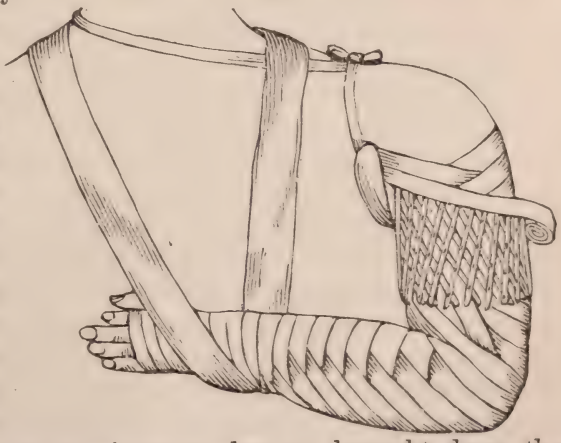
I have the satisfaction of now presenting to the profession, two new splints, the peculiar excellence of which consists in their very practical character, and the ease with which they may be applied.

"*Cylindrical Coaptation Splint.*"—Let us first direct our attention to that form of splint devised for use in fractures of the arm or thigh, and which is shown applied in the accompanying wood-cut. As will be seen, the apparatus consists of parallel strips of wood, both in and outside, crossing each other at angles, and connected together by rivets in such a way as to admit freely of contraction or expansion. Whilst being light and convenient, it possesses all the requisite strength for use in cases of fracture, and being self-adapting, it relieves the practitioner from any embarrassment in fitting and adjusting it to the injured limb.

The entire apparatus consists essentially of a roller bandage, an axillary pad and the "cylindrical coaptation splint" so constructed as to adapt itself to any arm or leg, either large or small. By reference to the wood-cut (see next page), the construction of the apparatus will be readily understood.

*The *Advantages and Accidents of Artificial Anæsthesia.* By Lawrence Turnbull, Philadelphia. 1878.

The principal points to be attended to in using it may be thus briefly summed up: Before applying the splint, the fracture must first be reduced and the broken bones placed in apposition. Then, if it be an arm, apply a roller bandage from the fingers to the axilla. This must be wound evenly and tightly enough both to prevent œdema, and to give support to the muscles, without obstructing the recurrent circulation. A little cotton wadding in the bend of the elbow not only enables the surgeon to adjust the roller better, but it also acts as a cushion for the lower end of the splint, after it has been applied to the arm. After fixing the roller, open the splint and slip it up over the bandage to the seat of injury, making it encircle the limb snugly by compression with the hands. The splint may then be surrounded by a strip of adhesive plaster so as the better to confine it to its place, whilst the roller is being brought down from above over the splint, after which the end of the bandage is to be secured in the ordinary way. After adjusting the axillary pad, the arm should be kept in the bent position by placing the hand in a sling suspended from the neck, the elbow being left free and dependent. Retention is thus secured. If the splint has been properly applied, the internal upper border is in the axilla, whilst the lower rests lightly upon the upper portion of the flexed forearm near the elbow, thus preventing its slipping in any way.



In the accompanying drawing, the descending roller is only applied over the upper portion of the apparatus, the dressing being incomplete so as clearly to show the application of the splint. The engraver, however, has not brought down the

splint in his cut sufficiently low to represent it as it appears when properly applied.

The use of the splint will be found particularly serviceable in the following conditions: In fractures at the epiphyses, of the surgical neck or shaft of the humerus, in which cases the axillary pad should generally be used, and the hand supported as before mentioned. In fracture of the larger tubercle, the whole of the forearm should be supported as recommended by Miller. In fracture with dislocation, the surgeon sometimes finds treatment difficult, owing to trouble experienced in returning the head of the bone to its place. In these cases, if the fracture is at once reduced, and the "coaptation splint" is applied over it, and bound tightly to the limb, the surgeon will secure leverage enough to reduce the dislocation, after which the splint should be removed and re-applied to the fracture in the manner already indicated. The "cylindrical coaptation splint" will be very useful and convenient for application to a stump after amputation, both for confining dressings, and allaying painful muscular contractions and twitchings. It is useful also in protecting the stump from injury, bed clothing, etc., whilst the application of carbolic acid or other lotions is not interfered with. After a stump has been made ready, first apply a triangular or Maltese cross bandage, making it lie smoothly, and over it place the splint, which is to be secured by a couple of strips of adhesive plaster. The splint should be applied so that its lower border will be several inches below the end of the stump, thus affording it protection. When so desired, the surgeon has only to clip with his scissors the pieces of adhesive plaster, and the dressing can be instantly removed. In some cases of resection, the use of the splint is also indicated. It is deemed best that the apparatus should be applied to fractures as soon as possible after the occurrence of the injury. In the cases of children, where there is but little muscular contraction, and where there is no tendency to lapping or overriding of the fragments, the use of the axillary pad may be omitted. In those cases met with in children, and spoken of as "green-stick fractures," the limb can first be gently and slowly forced into its natural shape, and the splint applied to give support

until repair has taken place. Owing to the ease with which the apparatus can be removed and re-applied, there will be in its use comparative freedom from danger, and the avoidance of ill results; for when deemed necessary, a view can be taken and examination made of the injury with but little trouble to the surgeon. At any time when protracted immobility is thought necessary, the apparatus can be easily made immovable by the application over the splint of a plaster bandage. When the fracture is complicated with injury to the soft parts, owing to the open nature of the splint, appropriate remedies to combat inflammation can be easily applied, and provision can also readily be made for the free escape of secretions. The use of the splint in treatment of fractures of the thigh is very simple. It can be applied and managed by any practitioner. The limb being first surrounded by a bandage, the splint is securely adjusted over the fracture; extension is made by weight applied to the lower extremity, by means of adhesive strips, as first suggested by Dr. Beck, and the counter-extension by a perineal band attached to the head of the bedstead. But, as regards treatment, it is unnecessary to say anything; for with an apparatus of this description, the surgeon's ingenuity will not be taxed to devise its proper adjustment for particular fractures, as he can modify the splint to suit the exigencies of the case.

"*Ulnar-Radial Interosseous Splint.*"—Let us now, as briefly as possible, say something in regard to the splint designed exclusively for use in injuries to the bones of the forearm. Much diversity of opinion has and still exists among surgeons relative to the practical benefit derived from using interosseous pads in the treatment of fractures of the forearm. This arises from the fact that the results of treatment by means of the interosseous pads, as usually applied, has not always resulted satisfactorily. It is worth while to observe that when we look closely into this, we find in the first place that, to prevent undue approximation of the bones, the pads should be of sufficient size *only* to occupy the interosseous space fully, and that they should also be made of some firm resisting material, and not as is sometimes the case, simply rolled

up from cotton batting or cloth, which but poorly serves the purpose intended, especially if the patient is fleshy or very muscular. And again, as sometimes adjusted to the arm, the pads are liable to slip or move from their proper position during the final application of the roller which secures the splints; so that, unless very great care has been used, when the dressing is completed the pads are not in the position most desirable, and from which the best results could reasonably be expected.

Taking into consideration these facts, I have constructed the splint shown in the above wood-cut, and which, in my humble opinion, will be found, not only of much utility, but easy of application in both simple or multiple fractures. As will be seen, the apparatus is very simple, and consists merely of a straight splint fenestrated, or more properly speaking, with an opening along its centre, upon the inner side of which works the interosseous pad (consisting of wood covered with leather), and a pad for the concavity of the carpus, the latter being left open at its posterior end, so that more or less filling can be inserted or removed, as may be desired. The circular opening at the end of the splint is intended for the condyle. The pads are so constructed that by means of buttons on the back of the splint, they can be readily moved, either forwards or backwards, thus enabling the surgeon without any trouble or inconvenience to adjust them with the utmost nicety. The buttons on the back of the splint will in no way interfere with the application of a roller. When thought necessary, by removing the screw on the back of the button, either or both pads can be taken off and temporarily dispensed with. For instance, in fracture of the lower end of the radius the interosseous pad can be removed and a compress added to supply the deficiency in the line of the arm above, and the splint can then be applied along the posterior aspect of the arm after the effective method of treatment known as Dr. Swinburne's.

The use of the splint is indicated in fractures of both ra-

dius and ulna, not only to prevent the ends of bone encroaching upon the interosseous space, but to prevent the upper fragment from being more separated or everted than the lower. The splint is also applicable in cases where both bones are broken.

Now, as to the best method of adjusting the splints. In all cases, after reducing the fracture, bend the forearm at an angle with the elbow, and apply the roller bandage from the fingers up. Then, after setting the pads as thought best, proceed to adjust the splints to the arm. The splint on the anterior aspect, at least, should extend from the elbow to the fingers, so as to completely command the articulation of the wrist, particularly in fractures of the radius, where there is usually an unnatural degree of pronation. Whilst the splints are being held in the desired position by an assistant, the surgeon passes around them three strips of adhesive plaster, thus confining them to the arm. After which, any vacuity remaining, must be filled up with raw cotton or something that will answer as well. The splints, supported by the adhesive plaster, will easily retain the broken surfaces in contact, while the roller is brought down, thus affording every security. When desirable for purposes of cleanliness or examination, the outside roller can be removed without any danger of disarranging the fracture, for the adhesive strips will continue to hold the splints in position. In all cases after the dressing has been completed, the forearm is supported as usual by means of a sling.

ART. VI.—**Is Consumption a Preventable Disease?** By CHARLES H. S. DAVIS, M. D., Meriden, Conn.

Public hygiene has, in the last twenty years, made great strides, and is now engaging the attention of thoughtful men of all countries. The people are becoming aware that communities can be saved from the scourge of epidemics, only by well-organized sanitary bodies. It is a stain on our civilization that no more has been done to arrest the progress of social misery and disease by preventive measures.

But the science which seeks rather to prevent than to cure

disease, is comparatively of recent origin. The men who have contributed most to its advancement are still living. Says Dr. Bowditch,* "We stand now at the very dawn of the greatest epoch yet seen in the progress of medicine. While, philosophically, accurately, and with the most minute skill, studying by means of physiology, pathological anatomy, chemistry, the microscope, and, above all, by careful clinical observation, the natural history of disease, and the effects of remedies, our art at the present day looks still higher—viz., to the *prevention* as well as *to the cure* of disease." Dr. Graily Hewitt said recently that the medicine of the future is *preventive medicine.*

With the improvements in sanitary science, and the encouragements to sanitary study, furnished by such bodies as the American Public Health Association, and the various State Boards of Health, it is to be hoped that the time is not far distant when we can not only prevent the increase, but to diminish, if we may not eradicate, disease.

Sanitary science comes in constant contact with personal convenience, avarice, mistaken economy, and long-established customs and habits, and until the people are educated up to the point of recognizing the value of sanitary science, and the knowledge that it is not alone from his own good health that the individual derives benefit, but that the well being of his neighbors as associates, likewise, is the source of many, and oftentimes for the greater, advantage to himself, it is necessary that there should be a general supervision of competent authorities invested with proper powers. Under improved sanitary conditions and surroundings, the plagues and pestilences which once swept the earth have mostly ceased to exist, and statistics of longevity establish the fact that the average duration of man's life has been materially lengthened.

As one person out of every six dies of consumption, every man, woman and child is, more or less, directly interested in everything having a practical bearing in reference to a malady which has already carried millions to the grave, and is destined to destroy millions more. The deaths from consump-

**Public Hygiene in America.*

tion to 100,000 deaths from all causes in the whole United States were, in 1850, 10,376; in 1860, 12,453; in 1870, 14,199. Consumption gives evidence of existence in three-fourteenths of those who die from other causes. These figures indicate that consumption, in proportion to other causes of death, has increased in the United States during the twenty years from 1850 to 1870, while the general death-rate of the country from all causes has been diminishing. In New England, it seems equally distributed, and the disease decreases from North to South in the United States. At present, it is the cause of nearly one-fourth of the deaths occurring every year in Massachusetts, and one-sixteenth of those in Louisiana.

If a person is suffering from the preliminary signs of this disease, it does not follow that he must die from it; on the contrary, he may hope to successfully combat it, and ultimately come off conqueror. Statistics show that consumption is a disease of civilization, and, therefore, it is the duty of the State to procure its destruction. That it may require several generations to be eradicated, is highly probable; but now that we understand the nature of the disease better than our fathers did, it is our duty to do what we can to prevent its further progress. We know that consumption is often developed from an acute or chronic pneumonia, a bronchial hæmorrhage, and from a neglected or latent catarrh, and is not entirely a constitutional disease, or hereditary disease.

Strictly speaking, the hereditary nature of tuberculosis has not been proven, although an hereditary tendency to the disease often arises from weakness of the constitution, either directly inherited from the parents, or developed later through illness. Dr. E. Darwin Hudson, Jr.,* in an elaborate monograph on consumption, states that "Dr. Cotton analyzed 1,000 cases at the Brompton Hospital, and could prove hereditary taint in about three hundred and sixty-seven. Scott Allison's observations at the same institution, out of 603 cases, he had seen the influence manifested in nineteen cases." Walsh, by careful inquiry among consumptives, concludes that not over twenty-six per cent. have had pa-

* *Transactions of the N. Y. Academy of Medicine*, 1876, p. 149.

rents affected with consumption. M. Pidoux says, not over twenty-five per cent. of those born of consumptive parents, themselves become so. The remaining seventy or seventy-five per cent. must be due to other causes than inheritance. Guizot, in four hundred *post-mortem* examinations of the bodies of new-born infants, failed to find a single deposit of tubercle. It is well known that the inflammatory processes have a decided tendency to recovery; and under suitable treatment, persons with extensive solidification and large vomicæ in the lungs, may often be kept for a long period in an endurable condition, or even in relative good health. As Niemeyer says, "The greatest danger by most consumptives is that they may become tuberculous;" as he holds that tubercle, in most cases, is unmistakably a late development, and complicates consumption in an advanced stage.

Most of the evils that we deplore in our town population, the disease and feebleness from which they suffer, are the direct outcome of the unhealthy circumstances in which they live. A depraved constitution may be transmitted to children, but it does not follow that the disease must descend to and destroy the offspring, although whatever has a tendency to produce permanent or long-continued debility, will generate, in many persons, a consumptive diathesis. Men and women who leave ill-ventilated bed-rooms in the morning to enter worse ventilated workshops, spending two-thirds or three-fourths of their time in a vitiated atmosphere, are not expected to live out the full expectancy of life. Our school-rooms are so poorly ventilated, that if a child spends eight hours in bed, and three hours (daily average for the year) spent in school, it will be seen that the child passes at least eleven hours per day in an impure atmosphere. Unsanitary conditions are apt to progress to a great extent without being suspected, and what to-day may be passively considered innocent, may be demonstrated to be producing deadly results to-morrow.

Malarial diseases, by impairing the general health, favor the development of consumption, and much increase its mortality. This poison, especially when acting with a medium

intensity, producing intermittent and remittent fevers, which do not rapidly destroy life, but which gradually undermine the constitution, often lays the foundation of consumption.

Although consumption is found in all climates, and among all people, it is not equally destructive everywhere. It is rare in the polar regions, and prevails more especially in temperate climates; while in the tropics its course is very rapid. Cold has no influence on the genesis of the disease; the inhabitants of elevated regions, 800 to 1,000 yards above the level of the sea, are as exempt as those living in polar latitudes. On the contrary, those inhabiting low, damp and warm districts are very subject to consumption. It is an incontrovertible fact that atmospheric influences have a most decided effect upon tuberculous deposits in the lungs, either in accelerating their ravages, or in controlling their progress, or even in their eradication.

Laennec states that one of the most certain developing causes of consumption is dampness of soil; and he mentions a locality having such a soil, in which the dampness was so constant and of such a character, that more than two-thirds of the resident population died of the disease. Dwellings otherwise excellent are often erected in apparent utter thoughtlessness of the character of the soil on which they are built, or its capacity for drainage, where this should have been a primary consideration. No town can afford to have house after house built with no provision for keeping the ground beneath dry, and so far maintaining the health and producing-power of its inhabitants. If we had enlightened local boards of health, ordinances would soon become common which would require that every new dwelling should be examined and approved by a health official, as to its requirement of drainage, before it could be inhabited. The soil should be porous and sandy, a loam soil of sufficient porosity to permit the rapid filtering of water from the surface, so that after a heavy rainfall the surface would soon become dry. All clay soil drains slowly and imperfectly, and the peculiar dampness rises which acts so unfavorably on phthisical invalids.

Fourteen years ago, Dr. Henry I. Bowditch demonstrated, before the Massachusetts State Medical Society, that certain conditions of the soil slew annually, in Massachusetts, a thousand of her citizens by consumption alone. The medical opinion in Massachusetts, as deduced from the written statements of resident physicans in one hundred and eighty-three towns, tends strongly to prove the existence of a law in the development of consumption, which law has for its central idea that dampness of soil, in any township or locality, is intimately connected, and probably a cause and effect, with the prevalence of consumption in that township or locality, and even some houses may become the foci of consumption, when others, but slightly removed from them, but on dryer soil, almost wholly escape. In the town of Greenland, N. H., there are three distinct divisions of soil. First, A higher and dryer sandy plain. Second, A medium, fertile, rather moist portion. Third, Extensive low marshes. Seven hundred and fifteen residents are about equally divided between the three districts. During ten years three people died of consumption on the sandy plain, five on the medium, and ten in the wet regions. Here, out of the same number of people, three times as many died in the lowland as on the higher ground.

In the town of Saccarapa, Me., where the hills are of a clayey loam, and the valleys gravelly, thirty-one per centum of the deaths on the hills were from consumption, and only sixteen per centum in the plain district. Dr. Elliott* alludes to the observations of the Registrar General, of the decrease of cases of consumption in districts that had been recently drained.

Dr. W. H. Carfield, Professor of Hygiene and Public Health, University College, London, claims that the drying of the subsoil by deep-drain sewers has had the effect to diminish consumption, to a remarkable extent, in nearly all of the twenty-five towns in which great sanitary improvements have recently been made. Baldwin Latham, in his work upon Sanitary Engineering, gives the following table, which illus-

* *Medical Times and Gazette*, December 26, 1868.

trates the benefits which followed the introduction of efficient works for sewerage:

Name of Place.	Population in 1861.	Average mortality per 1,000 before construction of works.	Average mortality per 1,000 since construction of works.	Saving of life per cent	Reduction of typhoid fever per cent.	Reduct'n of consumption per cent.
Banbury	10,238	23 4	20.5	12½	48	41
Cardiff	32.954	33.2	22.6	32	40	17
Croyden	30,229	23.7	18.6	22	63	17
Dover	23,108	22.6	20.9	7	36	20
Ely	7.847	23 9	20.5	14	56	47
Leicester	68,056	26.4	25.2	4½	48	32
Macclesfield	27,475	29.8	23 7	20	48	31
Meethys	52,778	33.2	26.2	18	60	11
Newport	24,756	31.8	21.6	32	36	32
Rugby	7.818	19.1	18.6	2½	10	43
Salisbury	9.030	27.5	21.9	20	75	49
Warwick	10.570	22.7	21.0	7½	52	19

Such tables show conclusively that the sickness and death-rates are higher than they ought to be, with our present knowledge of the origin of diseases, and the means at our command for their prevention; and it should be clearly understood by every intelligent householder, that the typography and geology of his immediate neighborhood are exercising a controlling influence on the condition of his family, promoting either health or happiness, or sapping the lives of those he loves.

Correspondence.

Hot Water Baths for Opium Poisoning—Priority of Authority.

Mr. Editor,—I read with much interest Dr. Selden's article in your October number, and wish it were possible that all contributions to your journal could contain so much of practical value. When I read of his immersing the feet and legs in scalding hot water, his plan was new to me; but since then, in reading an old book, I have seen mention

made of it. The work is "*Outlines of Medical Jurisprudence*," by Henry Howard, M. D., Professor in the University of Virginia, published in 1845. Under treatment opium of poisoning, I find " * * Pouring water occasionally into his ears, shaking him, and applying hot water to his legs so as to excite pain, are the usual means had recourse to;" and further on " * * Place the feet in very warm water, and pass a sponge dipped in the same, and as hot as the hand can bear it, over the shoulders, chest and back. Let this be immediately followed by a dash of cold water over the face."

As Dr. Selden says he is not aware of this remedy having ever been used in cases of opium poisoning, I take the liberty of giving the above quotations.

JESSE EWELL, M. D.

Hickory Grove, Prince William Co., Va., Oct. 30, 1878.

Clinical Reports.

A Case of Dissecting Aneurism of the Aorta. By J. L. MINOR, late House Surgeon St. Peter's Hospital, Brooklyn, N. Y.

E. M., aged 50; born in Ireland; married; occupation, housekeeper. The patient is a healthy and robust looking female, has always enjoyed excellent health, having experienced no serious disease or trouble previous to that for which she was admitted to St. Peter's Hospital. Two weeks before her admission, she was aroused from a sound sleep to experience a sharp, lancinating pain in the dorsal region of the spine, and extending from that point, laterally, in a modified degree. These symptoms were present when the patient was seen, and had existed since the onset of the attack, but with varying intensity—at times, creating little discomfort, but at others it was of such a degree as to render life a burden. Occasional nausea, and sometimes vomiting occurred. She frequently experiences the sensation of an object rising and falling in her throat. Soon after the commencement of the attack, the patient had pain in the region of the kidneys, with frequent and scanty micturition of coffee-colored urine. The renal trouble soon passed away, and was followed by a disappearance of pain and a restoration of the kidneys to

their normal function. The above were the only symptoms complained of.

A thorough physical examination revealed only a few mucous râles on the posterior portion of each lung. The urine was normal. The diagnosis was reserved, and palliative treatment resorted to. Aneurism was suspected. On the following morning, the patient was again roused from slumber by an exacerbation of the previous pain, and with it was a sense of impending death. She was restless and uneasy, unable to remain quiet, the limbs being in continuous motion. A successful attempt was made to rise from the bed, but, upon reaching the floor, the patient sank a corpse.

An autopsy was held in the afternoon. In the right pleural cavity, projecting from its posterior wall, was a large elastic tumor, extending the whole length of the chest, and projecting forward in its most prominent portion to the extent of about four and a half inches. The tumor was of a blackish color, and contained clotted blood to the amount of forty-five ounces. The origin of the blood was traced to an opening in an aortic aneurism. The opening allowed the escape of blood between the pleura and thoracic wall. The pleura was dissected up, and was found to form the anterior and lateral walls of the hæmatocele. The aneurism was of the dissecting variety, commencing on the posterior aspect of the descending portion of the arch of the aorta, and extending down to a level with the origin of the cœliac axis. At both, the beginning and end of the aneurism, an opening existed between the sac and the cavity of the aorta. This new passage was between the middle and external tunics, and involved about the posterior half of the circumference of the vessel. A few atheromatous patches, chiefly in, but not limited to the arch, were found.

The presence of persistent localized pain is a symptom of recognized importance; yet it is insufficient in itself to establish a diagnosis of aneurism. However, the sudden appearance of pain in a locality where aneurisms are common, without any other assignable cause, would greatly enhance the value of pain as a diagnostic feature of aneurism. Indeed, in dissecting aneurism, it is frequently about the only symptom present—the pressure effects being of so low a degree as to escape detection. The gastric and renal disturbance in our case may be accounted for by nervous implication. Sufficient derangement in the circulation may also

have occurred to give rise to or aid in the renal trouble. It is probable that the globus hystericus had its origin in a more serious lesion than is usually met with in practice.

A Nail Two Inches Long Swallowed and Passed Safely By JOHN R. HOOPER, M. D., Baltimore, Md.

A boy child of four years, hearty and always healthy, whilst playing with a dry goods box nail, two inches long, told his mother he had swallowed it. She did not believe it possible, and swept the apartment, turned out all the articles in the room, bed clothing, and in all places where he had been playing. The subject was forgotten, and three months after the child seemed to get droopy, and was treated for about ten days for ephemeral fever and derangement of digestion, when one day his mother, proceeding to clean him after a stool, found something protruding from the anus, and, with paper, she seized it and drew forth the two-inch nail presenting point foremost. Lucky boy.

Original Translations.

Translations from Spanish. By CHAS. R. CULLEN, M. D. (P. O., Richmond, Va.), Hanover county, Va.

A lengthy article on **Quarantines,** by Dr. Heron (*Revista Medico-Quirurgica*, No. 9, Buenos Ayres) indicates the extent of cholera and of yellow fever for the want of proper regulations to prevent the spread of infectious diseases. The progress of Asiatic cholera at different periods and in different countries is furnished, and concludes with a summary of views on the subject. "It is a deep-rooted opinion that cholera extends through the atmosphere; but it is proven that the chain of connection continues from point to point—from a single spot to a separate house; from this house to a village; from a village to a city, through its means of entrance. As to yellow fever, the same class of evidence and mode of reasoning prevails as in cholera; but, fortunately, the disease is more limited geographically. All concede that yellow fever is endemic in the Antilles, along the shores of the Gulf of Mexico, the Caribbean Sea, and in Brazil; but there are some who, like Dr. Ramson, contend that, under favora-

ble conditions, it can exist in every house along the coast of the continent of America, and along the banks of its magnificent rivers. Hardly twenty years since, Dr. La Roche published his masterly treatise on this disease. Its details are worked up with great care, and deserves the greatest praise:" and yet he cannot accept the argument "that yellow fever can always be attributed to local causes of infection." Dr. Ramson also (if he has not misunderstood him) takes the same view, though he thinks it can be practically disposed of. Yellow fever was carried by the prisoners of war from Brazil to Ascension, from Ascension to the city of Corrientes, and ultimately to Buenos Ayres, and thence it extended to many places, to be completely extinguished by cool weather. The first case in Buenos Ayres was in Boliva street, in front of the attending physician, Dr. Garcin, one of its first victims; then in a neighboring street, and from the great concourse of people attending the Carnival, it extended everywhere.

Doubtless, from quarantines many sick people suffer and die; business people suffer losses in money: property declines in value; but for all this, quarantines are necessary to the safety of the public generally, and should be firmly carried out to prevent the spread of this disease.

In the same journal, No. 10, the same subject is continued, with address before the Board of Public Health. The substance of it seems to show the difference between yellow fever and other dangerous diseases, as follows:

1. Yellow fever is a disease which transmits itself and forms foci, first in vessels, then in cities on the sea coast or on navigable rivers, and if it leaves these places, it dies with the persons transmitting it.

2. It does not extend to the country nor to the mountains, though individual cases go there.

3. If a caravan or an expedition, moving into a territory with few inhabitants, encounters a case of yellow fever which has removed from the infected locality, no one takes the disease.

4. The disease is propagated more by impersonal than personal means.

5. The contagious germ appears in none of the evacuations or emanations of the sick person.

6. On the contrary, it is denied that such reproduction exists. While among infectious diseases like cholera, typhus fever, small-pox, etc., the opposite facts are clearly proved. The strongest arguments which go to prove the contagious-

ness of yellow fever, are deduced from persons who disembark and go to places where the disease did not exist. But a difference is to be made between the person and his clothes, his equipage, &c. Diseased persons go from infected places—it may be from vessels—and carry the disease in their clothes, baggage, bed, etc., or the disease may be transmitted in mercantile packages and letters, even when the carriers have no disease. The city of Malaga had the disease in 1761, brought by a vessel discharging its cargo. When the Grand Turk arrived in Barcelona, four carpenters, working on the vessel, returned to their houses with the disease, although no person had the disease on board of the vessel. In 1823, a vessel arrived from Havana with a cargo of sugar. It had been quarantined in Corrunna *without disinfection*, and without opening the hatches. The stevedores were the first who took the disease.

The Council of Public Safety of Lisbon certifies that the first cases of the disease appeared in the laborers who removed the baggage, which was retained in the custom house. Proust asserts that a vessel can be a powerful agent of propogation of the disease, without regard to its crew. In St. Nazareo, the disease appeared first among the laborers employed in discharging the bark Ana Maria, from Havana. A cooper employed on the vessel returned to his house with the disease, and other persons furnishing provisions to the vessel, including the doctor who attended them took the disease, and all died four days after. None who attended the doctor took the disease. It is certain that one can transmit the disease without having it. A Dr. Villardibo believed that yellow fever was not contagious in any way, and to prove it drank the vomit of a fever patient, and also put some in his milk and drank it, and he died—a noble victim sacrificed to a hope which no one ought to try to prove. The question of contagion or infection is a mere matter of words, and of no practical utility. It is not necessary that a disease shall be *contagious* in order that it may be transmitted.

The incubation of the disease varies. One vessel was quarantined 17 days, and another 50 days, and yet the disease spread from these vessels. In regard to *cholera*, the incubation appears to be longer. The bark Sonsovia, which brought cholera from Montevideo to Genoa, 74 days after sailing had the disease again to develop.

[It is hoped that the Yellow Fever Commission will report something more definite about the disease, and, *if possible*, furnish some better means of prevention and cure.—TRANSLATOR.]

Report of Maternity Hospital, Buenos Ayres, from 1870 to December, 1877, from the same journal. Statistics show that a large number of the females are miserable outcasts, broken down in health—some by hard work, some by poverty, some by licentiousness, and many others from various causes. As a matter of course, the mortality is large, but it is questionable whether, if the cases were attended in private houses, the number of deaths would have been any less.

Number of females, 907; number of deaths, 72. Number of children, 922—males, 427; females, 425. Children dead, 98.

Treatment of Phthisis, from *El Progreso Medico.* In 35 years, Dr. Flint has treated 670 cases, and has arrived at the following conclusions:

1. In a great number of chronic cases, a change of climate is beneficial.
2. Exercise in the open air is better than drugs.
3. Change of occupation is also beneficial.
4. A change of residence, in many cases, seems to have been of benefit.
5. Sea voyages have done much good in a large number of cases.

In regard to drugs, cod liver oil, the hypophosphites and alcohol are the best.

From the German. By WM. C. DABNEY, M. D., Charlottesville, Va.

The Treatment of Psoriasis Vulgaris, Herpes Tonsurans and Pityriasis Versicolar with Chrysophanic Acid and Goa Powder.—By Prof. J. Neumann (*Weiner Med. Presse.*, Nos. 14 and 16, 1878). The goa powder (first brought into notice by Frayser, of Calcutta, in 1874) is of a dirty-yellowish color and very irritating. The principal ingredient is chrysophanic acid, which is present in the proportion of about 80 per cent. It is soluble in a watery solution of caustic potash, and slightly soluble in hot water; it is very freely soluble in melted fat, but the temperature of the fat should not be higher than 360° Fahrenheit, as the acid is decomposed at a higher temperature. It can be used in different ways, but the best preparation is in combination with fat.

Goa powder has been mixed with water, vinegar, lemon or lime juice or glycerin, although it is insoluble in these fluids. A convenient preparation is a mixture of 1½ parts of goa

powder to 40 parts of fat, to which should be added ten drops of acetic acid. This salve should be rubbed in twice daily. Another preparation, which is very serviceable, is a mixture of goa powder with lemon juice or glycerin so as to form a thin paste. To this a few drops of acetic acid should be added, and the mixture should be applied with a brush three times a day.

The chrysophanic acid acts on the healthy skin as a strong irritant, and for a few days after its application it causes an erythematous inflammation, the duration of which depends on the tenderness of the skin. This inflammation is sometimes so active as to give rise to sleeplessness, chilliness and other symptoms of nerve irritation. The redness is often in points corresponding with the hair follicles, and occasionally some œdema is caused on the face and upper extremities. Chrysophanic acid colors the skin a purplish brown, which coloration disappears after eight or ten days. The stain can be removed, however, by lightly scraping the skin, and by washing with benzine, the action of which is entirely painless, and does not injure, or in any way interfere with, the action of the acid.

Prof. Neumann gives the history of nine patients who suffered from extensive psoriasis, and who were entirely cured by this mode of treatment.

A case of pityriasis versicolor and three cases of vesicular herpes tonsurans subjected to the same treatment recovered rapidly. Prior to the application of the acid, the affected surface should be cleansed as carefully as possible of scabs; and the medicine should then be applied with a brush, or else spread on a piece of linen and placed on the diseased surface.

The results in psoriasis are brilliant. In psoriasis punctata, guttata or numularis, three or four applications are usually sufficient to produce a cure. The infiltration rapidly diminishes. After recovery takes places, there is usually a white surface left, but, as a general rule, the pigment re-appears after a time. Psoriasis which has run on for some time requires a much longer duration of treatment.

In herpes tonsurans and pityriasis versicolor, the parts to which the chrysophanic acid ointment is applied, assumes a dirty brown color—the skin subsequently peeling off in large flakes and leaving the natural color underneath. Three applications are usually sufficient for psoriasis, and herpes tonsurans also, when the latter is of limited extent; if it is more extensive, however, from six to eight applications are neces-

sary. No constitutional symptoms have been observed. Gray hair will be colored green by the salve; black is only slightly tinged with red. When necessary to apply the medicine to the face, Neumann recommends that the salve be spread on linen and applied in that way.

Proceedings of Societies.

Richmond Academy of Medicine.

(Reported by the Secretary, Dr. Charles S. Brittan, Richmond.)

August 20.—**Placenta Prævia.**—Dr. J. B. McCaw stated that it had been his misfortune to see quite a number of cases of *partial* implantation of the placenta, and seven cases of *direct* implantation of the placenta over the os. In cases of direct implantation, he had adopted Simpson's method with success—that is, pass the fingers into the os, separate the placenta, then tampon the vagina, and, at the same, give ergot. By this treatment he thought 9 out of 10 cases would be saved. The time for removing the tampon is a delicate question. He generally waits untill the pains come on, and push the tampon forward, for then the os is sufficiently dilated to allow the introduction of the hand, when delivery can be accomplished by version. He uses absorbent cotton for tamponing purposes.

Dr. O. Fairfax, in over 50 years practice, has encountered about a dozen cases of both direct and partial implantation, but had never lost a case. He relied upon the tampon, but did not separate the placenta. Be careful about removing the tampon. He had generally used sponges for his tampons, but thinks absorbent cotton would have been better.

Dr. J. G. Skelton never separates the placenta; it is a very hard thing to do. He tampons and allows the pains to push out the tampon. He thinks quinine will prove a most excellent oxytocic in these cases; at the same time, under no circumstances would he discard ergot. He had never seen a case in which he thought quinine *induced* abortion.

Dr. J. S. Wellford does not think that Simpson's plan would answer for all cases. Labor is rapid in cases of placenta prævia, because of the relaxed condition of the soft parts, due to bleeding. His experience led him to say that quinine does not produce appreciable contractile effects upon the uterus. He has frequently freely used it for malarial

troubles in pregnant women. True, it is a nervous tonic; hence it might tone up the nervous force of the parturient woman, so that in those women predisposed to miscarrry, an energy might be imparted to the uterus, in common with other organs, which might lead to abortion.

September 3.—The resignation of Dr. F. B. Watkins (having removed to Rochester, N. Y.), was received. Upon presentation by a committee to draft resolutions, it was

"*Resolved*, That the Academy in accepting it, hereby expresses its high appreciation of Dr. Watkins' professional and personal character, and its sincere sorrow at the separation.

"*Resolved*, That, as a testimony of Dr. Watkins' attainments and reputation, and the esteem this body has for him, he be elected an Honorary Fellow."

Oct. 15th.—**Buffalo Lithia Water of Mecklenburg Co., Va., in Female and other Diseases.**—Prof. James B. McCaw reported two cases of great irritability of the uterus and bladder when all other treatment had failed—both local and general—which were very much relieved by the use of the "Buffalo Lithia Water." He attempted to explain the *rationalé* of its action thus: The uterus is under the influence of any of the constitutional causes of disease, just as any other organ; and, of these causes, there is none more wide spread and insidious than the gouty, rheumatic, or *acid* diathesis. He quoted a remark made by Dr. McClurg, in his work on *The Bile*, more than a hundred years ago, to the effect that the robust constitutions of the Scotch, English settlers in Virginia and the South would run down from the acute diseases of his day into "neuralgias and dyspepsias." It is in this condition of things that such mineral waters as those of the Buffalo Lithia Springs fulfil their *rolé* by not only favoring assimilation of food and its complete manufacture into blood, but by rendering the secretions neutral and even alkaline; and these become potent agents in carrying off from the system acid constituents which, if not so eliminated, tend to produce upon all the organs of the body their characteristic effects. These Buffalo waters—bland, agreeable to the taste, and easy of absorption—flush out the kidneys with gentleness, changing the urine from an acid and irritating fluid into a neutral secretion—checking the reaction which must always exist between the uterus and bladder, and thus soothing the womb which has been thus kept in a state of constant irritation by its fretful neighboring organ.

Dr. McCaw also spoke of the use of these Buffalo Lithia Waters in the management of scarlet fever and in albuminuria of pregnant women; and concluded by proclaiming his intention to agitate the whole subject of Virginia mineral

waters, with the hope of bringing out in time, by means of a permanent commission, their true therapeutic value, and thus advancing the interests of the proprietors, the revenue of the State, and the public health.

Prof. J. S. Wellford was satisfied that many persons do not drink water enough to flush out the sewers of the system. Many affections are not local, and often disorders of the uterus serve as a mere signboard of constitutional trouble. The waters of the No. 2. Buffalo Lithia Springs contain twice as much lithia as those of Spring No. 1. The effect of lithia is to promote kidney action, and it prevents the formation of uric acid, while it combines with uric acid after it is formed. Urea and oxalic acid are both eliminated by lithia, and hence the value of the Buffalo Lithia Waters in all conditions of the system in which these proximate elements are superabundant or abnormally retained. Many of the mineral waters owe their virtues to their gaseous constituents; but this was not so with the water of the Spring referred to. These waters he regarded as of great value in gouty states of the system.

Baltimore Medical and Surgical Society.

(Reported by the Secretary, J. H. Scarff, M. D.)

September 26, 1878.—Society called to order by the President.

Dr. J. N. Monmonier related a case of *Injury to the Palmar Surface of the Hand by Fish Bone.* The tissues gave way, and profuse hæmorrhage set in, which was controlled primarily by pressure upon the radial and ulnar arteries; afterwards, the wound was dilated and several branches of the palmar arch ligated.

Dr. Cathell related a case of supposed labor; but, upon his arrival, found a *Prolapsus Vaginæ and Cystocele*, the result of lifting a heavy tub. The Doctor related the case as one of rare occurrence during the first months of pregnancy.

Dr. McDowell related a case of *Adhesion of the Ocular and Palpebral Conjunctiva*, due to pemphigus occurring upon the eye. There was a loss of corneal sensibility by the conversion of the conjunctiva into a pseudo-dermic tissue, and upon any emotional excitement, tears would flow through the nostrils.

On motion by Dr. Leonard, the regular order of business

was suspended, and Dr. J. H. Scarff elected Secretary, vice Geo. H. Rohé removed to Memphis.

The regular appointed subject for discussion, *Carbolic Acid*, was taken up. Dr. J. F. McShane related many uses of the acid, both externally and internally—diphtheria, scarlatina, anginosa, furuncles, carbuncles, &c. In reference to its use for carbuncles, he says that by puncturing it with a trocar and then introducing a few drops of the acid, in very many cases the trouble can be aborted in its earliest stages.

October 3.—**Calculi Causing Symptoms of Urethral Stricture.** Dr. Erich related a case of distended bladder, caused, he thought, by spasmodic stricture of the urethra. The patient complained of great pain, and was given a half grain of morphia, hypodermically, and sent home. The doctor visited him in about two hours afterwards, and found that his patient had derived no benefit from the morphia. He repeated the injection, and in about two hours later he again visited his patient, when he tried to introduce a catheter, but found an obstruction behind the meatus urinarius, which proved to be a bean shaped calculus, of the uric acid variety.

A case of impaction of the urethra from these calculii was related by Dr. Monmonier, occurring in a patient at the Washington University Hospital, which the Doctor relieved by removing the calculii one at a time, after the urethra had been dilated with oil.

October 10, 1878.—Upon motion of Dr. Thos. R. Brown, the regular order of business was suspended, and Dr. Ephriam Cutter, of Boston, was introduced, who delivered a lecture upon the **Morphology of Syphilitic and Consumptive Blood.** In referring to the labors of Salisbury, published in the *American Journal of Medical Sciences*, of 1867, the speaker said he was only a witness to testify to the truth of these statements. An algoid vegetation is the supposed cause of the change in the blood. The Doctor proposed to show the morphology of some algæ and of yeast as a fungus that was well known and studied. Micro-photographs of yeast, taken with the $\frac{1}{50}$ inch and the celebrated $\frac{1}{75}$ inch objective, were thrown upon the screen. They showed clearly the form and features of the protoplasm of vegetable sporangia, also the forms of vegetations that can live and multiply in the substance of organic bodies. A few algæ of a parastic character were displayed; among them a plant that lives in the substance of a Key West sea-weed. The distinction of nocent and innocent was stated to apply to these vegetations. A filament of the leptothrix buccalis, from the human mouth, was exhibited as

one of the latter variety. He next exhibited micro-photographs of blood—human, bovine, canine, of the rat, deer, squirrel, moose and sheep, taken to show the comparative size of red corpuscles. He spoke of the morphology of blood in syphilis, and showed spores, mycelial filaments and enlarged white corpuscles. The spores and mycelial filaments are copper colored—the latter having obtuse ends, and are homogenous, smooth, cylindrical or tapering. The entophytal growth in the white corpuscle is also copper colored, but this is shown best in the spores. Lovstofer did not go far enough in his experiments, but used a process by which Dr. Salisbury cultivates a vegetable growth from a healthy, white corpuscle, and denominates entophytes hæmaticus. Neither did he recognize what Salisbury described in 1867, viz., the existence in the systematic capillary circulation of the copper colored spores, mycelial filaments and *ut supra;* when enlarged white corpuscles were found, he confounded them with other diseases (consumption, &c.). The speaker, in order to differentiate the diagnosis, showed micro-photographs of consumptive blood, as pointed out by Dr. Salisbury, and confirmed by himself—viz., enlarged white corpuscles, spores and spore collects, mycelial filaments and fibrin filaments. There are several diagnostic points between the morphology of the two diseases, as respects the rational signs, history, the copper color, the character of the filaments. The red corpuscles and fibrin filaments must especially be regarded. Where the two diseases occur together, it becomes a matter of difficulty to distinguish them. In the series of exhibits, the first micro-photograph ever taken with the $\frac{1}{75}$ inch objective was shown. Some photographs of foreign substances, studied in fat, &c., were thrown upon the screen to show that some source of error had not been overlooked. Finally, a micro-photograph of the third stage of consumptive blood was shown in comparison with one that had been treated about three months by the Salisbury plan. The latter showed the white corpuscles brought down to their normal size, the spores reduced in number, and the serum spaces cleared up. *Pari passu*, there was a marked improvement in the health of the patient. This was shown to prove the practical value of Salisbury's plan of treatment.

In conclusion, it was announced that a subscription work was in contemplation, describing the history, causes and treatment of consumption, as derived from 1,000 cases treated by Dr. Salisbury and the speaker. The First Fasciculus de-

scribes (1) a new physical sign in the pre-tubercular state; (2) morphology of consumptive blood; (3) cases treated by the Salisbury plan. The Doctor thinks that, if the profession generally would realize, in their own experience, the practical results acquired by Salisbury, and corroborated by himself, at least 15,000 lives could annually be saved in the United States by the timely detection of the pre-tubercular state.

Baltimore Academy of Medicine.

Nov. 5th. **Obstinate Pruritus Vulvæ.**—Dr. P. C. Williams asked information in relation to a case which was now giving him much anxiety. One of his lady patients, in her sixth pregnancy, with only four months passed, is excessively annoyed by itching, not restricted to the vulva, as in her previous pregnancies. Up to the present time, he has exhausted his resources without obtaining relief for her, and he wished to know whether there was any hope short of labor to bring about the much desired relief. Dr. H. P. C. Wilson had seen two cases of a similar nature in which he had failed to relieve the patient of the intolerable itching. The discomfort in each case lasted to the full term, and disappeared at once as soon as the gravid uterus was emptied of its irritating contents.

Dr. Williams having mentioned the varied treatment, both for internal administration and for external application, which he had used in vain upon this lady, Dr. J. Morris suggested the local use of hydrocyanic acid which he had used beneficially in other kinds of pruritus, although he had not tested its efficacy in one of so general a nature where the whole surface was in an irritable condition.

Dr. C. Van Bibber suggested the use of chlorate of soda.

Picrate of Ammonia for Whooping Cough.—Dr. J. Uhler asked whether any members of the Academy had experience with the picrate of ammonia in subduing the paroxysms of whooping cough. He had experimented in several cases, using it in $\frac{1}{8}$-grain doses in children, and also administering it by inhalation. His results did not confirm the glowing accounts of the journals in relation to the controlling influence of this drug. In some of his cases, the paroxysms were benefited; in other cases, hardly influenced. He thought that he had derived more benefit from the inhalation than he had from the internal administration.

Migraine Cured by Ergot.—Dr. Conrad reported a very interesting case of migraine occurring in a young lady twenty years of age. When seven years of age, she received a severe blow on the side of the head, from which injury she dates her suffering. The pains were more or less periodical in their nature, for a long time only coming on at the period when the monthly flow was established. In the course of time, this heretofore monthly attack of severe headache made its appearance every three weeks; then once a fortnight; then weekly, and, finally, it has not only been every day, but often several times a day. There are some very striking peculiarities in the nature of the pain in this special case. The uneasiness always comes in the right temple, soon involving the right eye and right side of the head. From this centre, the pain radiates to the left side of the neck and the left side of the chest. The pain is in sharp, sudden paroxysms, causing very painful contractions in the intercostal muscles of the left side of the trunk only. These daily accessions of pain always appear in this order from the right temple, then the left side of the neck, then the left side of the chest. Another peculiarity of the case is the eversion of the right eye in external squint, and the protrusion of this eye-ball in exophthalmos. Each attack of pain is accompanied by these curious phenomena, which altogether pass off when the patient is not suffering. While the chest pains last, the thorax has a stuffed feeling, as if swollen, necessitating the loosening of her dress to partially remove the discomfort. His patient had been under the treatment of many physicians, who had given her no relief. All of the remedies tried by him had equally failed, when, concluding that the exophthalmos and other symptoms pointed to the same defect in the vaso-motor system, he administered large doses of ergot. To this remedy the disease seemed immediately to respond, so that the painful attacks have been materially mitigated through ergot influence. Dr. Conrad added much to the interest of his report by appending the most recent views of the leading writers on migraine in illustration of this obscure disease.

Poisonous Effects of Tobacco on Eye-Sight.—Dr. J. J. Chisolm, Professor of Eye Diseases in the University of Maryland, read the regular paper for the evening. The views contained in the paper had been derived from the treatment of thirty-five cases of tobacco amaurosis during the last eight years, from 1871 to 1878, inclusive. These thirty-five cases appeared among 13,723 patients treated for eye diseases by

him during this period, and in which the cause and effect could be directly traced. The proportion of tobacco eye-poisoning to cases of amaurosis from all causes was 1 to 8. Dr. Chisolm accounted for the very large number of tobacco cases which had come under his observation by the fact that his practice is derived chiefly from the tobacco-growing States, in which smoking is universal. The injurious effects of this narcotic upon the eye-sight is only experienced after many years of constant exposure to nicotine—very seldom under 10 years' use of tobacco, and at times not until 30 years' excessive indulgence has been practised. One of his patients had his vision decidedly clouded by the use of a single cigar a day. Another patient smoked twenty cigars a day for thirty years before the very cloudy vision forced him to seek treatment.

Tobacco poisoning of the sight nerves shows itself as a mist which pervades all objects, and renders ordinary print obscure. This mistiness slowly thickens until the patient becomes unfit for all active employment, as he is deprived of the power of seeing small objects; especially of reading. While the sight is very smoky, the eye, to all appearances, is healthy. An examination, however critical, reveals no pathological changes. The ophthalmoscope develops no explanation for the misty sight. Glasses will not clear up the fog. This peculiar condition of tobacco amauroses in its early stages is diagnosed by the absence of symptoms explanatory of the defective vision. In one case of a female patient in whom, after a most careful examination, Dr. Chisolm could find nothing to explain why she could not use her eyes on near objects as in sewing or reading, he said to her, "If you were a man, I would suspect tobacco poisoning!" She acknowledged that she smoked very freely, and had done so for many years. As the blindness increases, the ophthalmoscope will show a progressive white atrophy of the optic nerve.

The successful treatment of tobacco amaurosis consists essentially in stopping absolutely the use of tobacco. It will not do to taper off by smoking only three cigars a day, if the patient had been in the habit of using six or ten. Smoking must be entirely abandoned. This alone will rapidly restore the patient to good sight, if the case has not progressed too far towards white atrophy of the nerve. The internal use of strychnia and applications of electricity will hasten the cure, but these active agents will be positively useless if the smoking be continued. Out of the 35 cases of tobacco amauroses, only one was traced to excessive chewing.

Dr. Chisolm gives strychnia in much larger doses than are usually prescribed. His minimum dose for an adult is one-twentieth grain taken after meals, three times a day. After a few days, the breakfast dose is increased to one-tenth grain; after a short interval, the dinner dose is equally enlarged, and then the supper dose. Most frequently the dose is increased until it reaches one-fifth grain after breakfast, one-fifth grain after dinner, and one-tenth grain after supper. The system rapidly tolerates these large doses, and a slight muscular contraction seems to be the best evidence of the fullest beneficial nerve stimulation. Dr. Chisolm has, for many years, abandoned the hypodermic administration of strychnia, as it can only act on the nerve centres after entering the circulation. This it can do equally as well from the stomach as from under the skin. When the puncture has to be made three times a day, and continued for weeks or even months, the prospects are not very agreeable to a nervous patient. Having tested strychnia in solution and in the sugar-coated granule, he now exclusively uses the pill by which he avoids for his patient the very bitter taste of the alkaloid, and secures the more accurate dose which the irregular teaspoonful does not ensure. In administering so potent a remedy as strychnia, a double dose must not be given in mistake, and a teaspoon holding more than a drachm may prove a very annoying dose to an over susceptible patient. One of the cases reported had continued the taking of strychnia with benefit for one year, and in this period had actually taken into his stomach two hundred grains of the sulphate of strychnia.

Dr. J. C. Thomas, trustee of the Hopkins University, desired to correct a misrepresentation which had been widely disseminated as to the scope of the preliminary course which the University had established for those who designed, in the future, to study medicine. The course was based upon the requirements for admission to the medical courses of the Universities of London and Edinboro', and more complete than in either of these foreign Universities. The study of medicine is now so extended that students who desire to amass the necessary information can better utilize their time from 16 to 20 than by going through the regular collegiate course—acquiring much that can not be in after years utilized. Having secured a good school education, with an insight into elementary mathematics, arithmetic, algebra, and geometry, a knowledge of English grammar, and an ability to read the first four books of Cæsar, which can be acquired

by any young man with ordinary capacity, he should be ready at the age of 16 to commence a preliminary course of study in the Johns Hopkins University, which, in three years, will fit him to take up the study of medicine, receiving the University degree of F. S. M. These three years of preparation will be largely consumed in laboratory work, comprising experimental physics, elementary mechanics, chemistry, French, German and drawing for first year; chemistry, general biology, elementary course of comparative anatomy and zoology, elementary course in physiology and histology for the second year; human anatomy, advanced course of physiology and histology, elements of embryology and psychology for the third year. He desired to know whether the familiarity of manipulation, the use of the hands and eyes, as well as the brain work, which dissecting, microscopic work in the biological laboratory, and several months of work in the chemical laboratory would give the members of this preparatory course, would not supply a more sound, scientific basis for professional studies than the usual college curriculum as now followed. This utilitarian system was based on the extended experience of Prof. Huxley, who advised all those who had made up their mind as to a choice of profession, to commence early to train themselves in preparation for the more serious study of their future occupation. By matriculating in the Hopkins University for this preliminary course at 16 or 17 years of age, they will be prepared at 20 to commence the three-years course of medical studies, to which is to be added one year's residence in the Hospital—in all 7 years study to prepare for the practice of medicine. The views of the Hopkins University trustees, as explained by Dr. Thomas, received the full endorsement of the members of the Academy of Medicine.

American Public Health Association.

Richmond, Va., Nov. 19.—The sixth annual session was convened at 7½ P. M., the President, Dr. Elisha Harris, of New York, in the chair; Dr. E. H. Janes, of New York, Secretary. The address of welcome was made by Governor Holliday. Dr. James L. Cabell, of the University of Virginia, made some general introductory remarks, explaining the purposes and efforts of the Association, etc.

The President, Dr. Harris, then delivered his annual address. After alluding to **Yellow Fever** as the special subject for consid-

eration at this session, he remarked that thirty years of observation and seasons of responsible care of yellow fever patients, and careful study into the facts and reasonings as to the causation of this disease, did not allow him to speak dogmatically concerning it. Nosological distinctions, ætheological theories, and the ever-varying phenomena of meteorological conditions, and other circumstances of the hot seasons and local conditions which mark the history of successive epidemics of yellow fever, do not affect the one most essential fact, that this is not a pandemic pestilence. Experience proves that the domain over which its ravages have extended, is so well defined and so limited, as to warrant the belief that, by united counsels of the public health service of the civilized world, it may soon be practicable to define the essential facts concerning the factors of causation that enter into the propagation of this pestilence within the yellow fever zone.

Members and officers of the American Public Health Association became responsibly concerned in the organization and plan of the important investigation now in progress by the Commission, under the direction of the Surgeon-General of the Marine Hospital Service, to the extent and ability of their right to do so.

This Association convenes to-day in the capital city of the Mother of States, to examine, sift and analyze the body of evidence which we have begun to accumulate. All the State and municipal authorities of the regions visited, or liable to be visited, by yellow fever are, by their working representatives, now cordially gathered with us in council upon these momentous questions.

This is the sixth annual meeting of the Association, and the ninth conference of the friends who organized this body. The plan of effort and duty, as matured from year to year by members constantly increasing in numbers, though not yet changed in any respect, should be made to enlarge its scope in all respects in which public health and the progress of sanitary knowledge may warrant modifications and enlargement of the functions and methods of the Association. When, on September 13, 1872, the plan and methods of the Association were adopted, and its duties begun, eight States were represented. At that time, only three or four States had State Boards of Health, and not one in ten of all the cities in the United States then had efficient sanitary service, or anything like a rational code of health laws.

To-day, the beginning of the seventh year of the Association's life, we look out from the capital city of Virginia upon nearly fifty cities that have organized reasonably sound methods of sanitary government. More than this, sixteen of the States now have organized State Boards of Health, and, without exception, the membership of all these sixteen Boards is worthy the privileges and duties of membership in the American Public Health Association. Indeed, the majority of these State Commissioners of Public Health are members already.

"After referring to the awakening of the public mind in regard to

sanitary government, and what this Association had accomplished through Boards of Health and governmental officers, Dr. Harris said:

I deem it a duty to suggest, among other modifications which may be found practicable in the organization and work of the Association, the following;

1. That each State Board of Health shall be entitled to one seat in the Executive Committee of the Association, that member being elected by his associates in said Board, and to hold office for the term of one year.

2. That members of the State Boards of Health be *ex officiis* members of the Association.

3. That the elected members of the Executive Committee, as now provided for in the Constitution in respect to election by the Association itself, shall be year by year in number equal to the total number of members *ex officiis*, and that this committee be henceforth designated the Council of the American Public Health Association.

4. That, for the purpose of encouraging and very definitely shaping the special expert kinds of investigation, and the scientific reporting of the same, and for encouraging continual researches and scientific experiment, there should be such an arrangement of members who can so contribute that they may work in appropriate committees or sections, as designated in the original construction of the standing committees, but which now requires essential reconstruction, both as to the committees and their schemes of action.

5. The maintenance in each State and Territory of a system of periodical reports—weekly, monthly, yearly—of all epidemic and other prevalent diseases which the State Boards of Health—in States where there are such Boards—shall supervise and provide for; and in States and Territories where there are no such Boards, this duty to be performed by resident members of this Association designated for the purpose—all such methods of study and reporting being organized in such a manner as to yield entirely comparable and harmonious results.

6. The study of meteorological phenomena and atmospheric conditions strictly with reference to practical results in regard to epidemiology and health.

7. The maintenance of a committee or section of members for the study of, and consultation in regard to practical objects in biological and anthropological investigations, inclusive of whatever contributions to this department may be secured through the census and other national and State systems of registration and records.

8. The introduction of a clause into the constitution of the Association to provide for the steady encouragement and counsel, if not for actual editorial and supervisory duty, in the publication and diffusion of sanitary information and popular instruction upon the most essential and most neglected duties which affect public health.

9. It is earnestly recommended that there should be a formal re-

cognition of both national and international obligations and opportunities in the work and purposes of this Association. Such recognition by the Association in its communications with the State, national and international authorities, civil and sanitary, should be undertaken as the duty which this Association owes in its public relations. This work should be so managed as directly to conduce to very important practical researches, that are already in progress in Europe, and also to some extent in this country, in regard to pestilential diseases and their contagia, and all other general and specific improvements in public hygiene. But aside from this, the national and international facilities and mutual opportunities with reference to the progress and applications of sanitary knowledge, and the protection of the public health in all civilized countries, warrant the preparation of a practical working plan for this branch of duty by the American Public Health Association.

Dr. Harris introduced Dr. J. M. Woodworth, Supervising Surgeon-General of the United States Marine Hospital Service, who remarked that early in the epidemic of yellow fever—happily now nearly ended—the thought of the people turned to questions of its cause, and measures for its prevention. Petitions and individual appeals were made to the President, calling upon him for the appointment of a commission to investigate the epidemic with reference to the safety of the public health. Unfortunately, our Government does not provide a contingent fund to meet emergencies such as this; but, fortunately, there is a compensating public spirit among our people; and in this emergency, as is often the case, it gave utterance from the heart of a woman. Upon the assurance of this public-spirited woman, Mrs. Elizabeth Thompson, of New York, and with the approval and advice of leading members of this Association, and of public-spirited commercial men of the city of New York, who, with others, have since contributed of their means, the Yellow Fever Commission was organized on the 1st of October, and the work of investigation was commenced while yet the great tragedy of the exotic enemy was being enacted. This Association has convened to determine, as far as may be, the causes of the commencement and spread of the epidemic; and while you may regard the responsibility of this determination as exceedingly great, he congratulated the whole country that it has fallen to the lot of gentlemen so eminently wise and discriminating as are here in council. The evidence which the gentlemen of the Yellow Fever Commission have gathered, is to be sifted, and the important facts singled out, tested, and established as the foundation upon which the theory and practice of preventive measures may securely rest. The Commission will bring facts only—facts gathered by patient, careful inquiry, made from city to city, and from house to house. The work is not yet completed; and it will not be abandoned until all of the facts possible to be obtained are gathered, either by the present Commission or another, or an enlarged Commission, as this Association may advise or Congress direct. The same spirit which has sustained the inquiry so far will provide the way to complete the work.

Hon. L. H. Steiner, M. D., of Maryland, presented "A brief review of the Association's present work and of its duty."

Second Day, Nov. 20.—Dr. S. M. Bemiss, of New Orleans, President of the Yellow Fever Commission, presented his report. Dr. Jerome Cochran, of Mobile, joined the chairman in New Orleans Oct. 4th, and Dr. E. Lloyd Howard, Baltimore, arrived on the 6th.

It was known to the Board of Health of New Orleans, and through their courtesy the facts were placed in the possession of the Commission, that a case of yellow fever had been brought to New Orleans in the month of May. On May 23d, the Emily Souder landed in New Orleans, with her purser sick at the time of her arrival. This man (Clarke) was carried to Claiborne street, near the corner of Bienville. At this house he died on May 25th.

The death was returned by the attendant physician as one from malarial fever. For testimony establishing the fact that this was a case of yellow fever, he refers to Dr. Cochran's notes.

Another of the crew of the Souder (Elliott) took sick May 24th at the corner of Girod street and Front, from which place he was taken to Hotel Dieu May 27th, and died on the 30th.

The Commission deemed it important, as a first step in their work, to ascertain whether such connection existed between these cases and those imported cases, and those occurring subsequently in New Orleans, as to authorize them to declare that they afforded the foci of infection from which the disease afterwards spread throughout the city. We were compelled to leave New Orleans before this point in our investigation had been satisfactorily accomplished. Enough was developed, however, to render it probable that a connection, as yet untraceable, does exist between the cases of Clarke and Elliott and the first cases among the citizens of New Orleans. The Commission received a number of letters and some verbal statements, purporting to give information respecting violations of quarantine by fruit vessels and ships entering New Orleans from infected ports.

We obtained a sufficient amount of testimony to justify a belief that one or more cases of yellow fever had occurred in the city, probably in the month of June, under circumstances which rendered it altogether possible that they had been brought to the city by conveyances as yet unknown.

The appointment of Col. T. S. Hardee as Sanitary Engineer enabled the Commission to begin field-work on the 22d and 23d of October. The plan was that Dr. Howard should leave one day in advance and inspect the towns of Donaldsonville, Plaquemine, Baton Rouge, and Port Gibson, arriving in Vicksburg by November 3d or 5th. Dr. Cochran, with Colonel Hardee, was to leave on the 23d, and to visit all important points on the St. Louis, Chicago and New Orleans railroad as far back as Jackson, and then, taking the Vicksburg and Meridian railroad, to go as far as Meridian; and, returning, reach Vicksburg by the date fixed for Dr. Howard's arrival. The chairman of the Commission was to visit Canton, Yazoo City, and reach Vicksburg by the 1st of November. Both Drs. Howard

and Bemiss were accompanied by draughtsmen. Upon arriving at Jackson, Dr. Cochran determined to continue up the road to Grenada and Holly Springs, and from thence to Chattanooga and Decatur, and return to Memphis.

Dr. Bemiss reached Vicksburg November 1st, and on the 3d Dr. Howard joined him. The indisposition of Dr. Howard had prevented the accomplishment of that part of the work assigned to him, and it was considered better that he should return to Louisiana and complete the study of the epidemic in Donaldsonville, Plaquemine, Baton Rouge and the Lafourche regions, while Dr. Bemiss should visit Port Gibson, Miss., Brownsville and Milan, Tenn.

At the various places visited, the first object was to secure the co-operation of the practitioners of medicine in the place and the public officials. From these sources and from the various officers of the Howard Associations we obtained the facts which we lay before you. We then commenced our work by getting the name, location, and date of attack of the first case of yellow-fever in the town. Every point of testimony which could throw any light upon the origination of the sickness of the first case was carefully sought for and faithfully put on record. The same line of inquiry was pursued until the disease became so prevalent in the town that it was no longer instructive to continue the study of individual cases. After this, general facts in regard to the visitation of the disease and circumstances influencing its spread, or in any manner connected with it, were collected and recorded in every town visited and mentioned in our report except two. We made a map of the place, located the houses in which cases had been, placed upon each map as many as was possible to obtain in the short time allotted us for work. The two places excepted are the towns of Lake, Ala., and Paris, Tenn. Maps of both of those stations are being prepared.

We regard this method of studying yellow-fever as an extremely valuable acquisition in any scientific investigation into the habitudes of its poison. Especially is this the case where great diffusion and intensified energy gives it epidemic force. The sanitarian can look upon these maps and see for himself the precise location of the earliest case of any epidemic. He can determine what influence, occupation of the same locality exerts upon the spread of the disease. He can see for himself how invariably yellow fever tends to arrange itself in groups of cases, and thus observe its marked contrast with the tendency of malarial fever to occur in separate, disconnected, and totally independent cases. He can also study for himself the influence of filth, bad drainage, or unsanitary situations, and of elevations and depressions of surface.

The Commission did not have time to locate in this manner *every* case of yellow-fever which has occurred in each of the towns visited. In respect to the sanitary condition of the towns visited, we have to report the same character of neglect and violation of laws of health common to all, or nearly all, inland towns in the United States. These are neglect of drainage, inattention to deposit of fœcal mat-

ter, and refuse animal and vegetable matter, and inattention to the purity of drinking water. The violation of sanitary rules in each one of these particulars is given without reserve in respect to all visited towns, except New Orleans.

Sergeant S., of the United States Signal Service in New Orleans, has prepared a series of charts designed to show what influence is exercised over the spread and mortality of yellow-fever by meteorological changes.

The Commission unanimously agree in stating the facts in regard to their investigation up to the present time, reserving the right to introduce at any subsequent time such antagonistic facts as may be discovered:

1. We have not in a solitary instance found a case of yellow-fever which we could justifiably consider as of *de novo* origin, or indigenous to its locality.

2. In respect to most of the various towns which we visited, and which were points of epidemic prevalence, the testimony showing importation was direct and convincing in its character.

3. The transmission of yellow-fever between points separated by any considerable distance appeared to be wholly due to human intercourse. In some instances the poison was carried in the clothing or about the persons of people going from infected districts. In other instances it was conveyed in such fomites as cotton-bagging, or goods of some description, or bedding and blankets.

4. The weight of testimony is very pronounced against the further use of disinfectants. Physicians in infected towns, almost without exception, state that they are useless agents to arrest the spread of yellow-fever, while some of them affirm that their vapors are seriously prejudicial to the sick.

5. Personal prophylaxis, by means of drugs or other therapeutic means, has proved a constant failure. A respectable number of physicians think the use of small doses of quinine of some use in prevention.

6. Quarantines established with such a degree of surveillance and rigor that absolute non-intercourse is the result, have effectually, and without exception, protected those quarantines from attacks of yellow-fever.

Each one of us has exercised the utmost care possible to be observed that whatever facts we might gather and lay before you should be facts in reality. We have been cautious in accepting statements not fully vouched for, and in every instance where it could be done corroborating testimony has been elicited. We have entered upon our work determined that one only object should inspire us—a desire to bring into the garners of science a contribution whose fidelity to nature and truth should constitute it an authority, even when we shall have passed away. We have found at every place we have visited an interest and desire to co-operate in our work gratifying to ourselves and full of promise for future investigations. Especially did the medical profession everywhere give their cordial and earnest support.

Dr. Jerome Cochran next read a paper, giving a detailed account of the fever at Grenada, Miss., and exhibited a map of the place, a statement of its sanitary condition, etc. The town had a sewer which was partially covered, and had a running stream in dry weather, but which was not in a filthy condition. When the fever first appeared there, it was called "congestive malarial fever," and "bilious fever," and "jaundice." The fever first appeared early in July, in the person of a Mrs. Fields. Her house was in a good sanitary condition. She had been down to the depot to see her daughter off for Okalono. The train was from New Orleans, and the mother, it is thought, occupied a seat in the railroad car by her daughter while the New Orleans passengers were taking breakfast. After her case, the disease spread rapidly among all families who had visited her. In the section of the town most exposed to malarial influences the disease was least fatal; it is true, however, that it was inhabited chiefly by negroes, who were only attacked late in the season, and usually had the disease lightly.

"When the physicians published the fact on Sunday, 9th of August, that the disease which had entered the town was unquestionably yellow fever, the whole population was seized with panic, and everybody who was able to get away went as speedily as possible. They fled to distant cities, and carried the seed of pestilence with them, to spring up and bear disastrous fruit, as at Water Valley, at Holly Spring, at Grand Junction, and at several other places. Many of them went into camps, located about three miles from town—something like one thousand persons—and although some of these campers occasionally visited the town, the camps escaped infection. Many fled to the adjacent country in all directions—to distances of from two to three to ten or fifteen miles—and in this way the epidemic was extended to several country neighborhoods, and struck down in scattered country houses scores of victims." There were, unfortunately, many unable to leave on account of sickness in their families.

Grenada stands on an elevated plateau, and every rain washes the streets and gutters clean. The number of cases at Grenada was 1,040 (out of a population of 2,500); deaths, 326; whites, 226; blacks, 100. *Only five white persons* who remained in the town escaped attack. The negroes were much exempt, and the percentage of deaths among them was much less than among the whites. It was increased to some extent by over-eating and other imprudent acts while convalescing. The whites who removed to other cities, as a rule, died, but those who went into camp generally escaped. The section of the town where the negroes dwelt was for sometime after the introduction of the disease free from infection. The investigation at Grenada shows the intensely infectious character of the disease; persons who went to visit the sick nearly always carried the disease away with them.

Dr. Bemiss read a paper giving in detail the history of the epidemic at Canton, Miss. The number of cases was 919; deaths, 120;

blacks, 55. "The disease was brought directly from New Orleans by the Brittan family." "In respect to yellow fever at Canton, it must be conceded, that more than usual epidemic force attended its whole career." "Very few unprotected people who remained in Canton escaped. The number of citizens protected by previous attacks was very small—perhaps not over twenty." The mortality rate was eighteen per cent.

Dr. Bemiss also read the result of his observations in Madison county, Miss., presenting, however, no new phases of the epidemic.

Dr. E. Lloyd Howard, of Baltimore, read the report of his investigations at Baton Rouge. This city is situated on the east bank of the Mississippi river, The sanitary surroundings are generally good, with the exception of some low grounds in the vicinity, which are at times subject to overflow, causing malarial diseases. The drainage is partly toward the river and partly toward the swamps, and is not so good as the natural advantage would seem to demand. In other respects, Baton Rouge does not differ from other cities in its section of country. On August 5th, the Democratic Convention assembled in the town; from four to five hundred attended. Several came from New Orleans, and it is believed that from them, the yellow fever originated. The first clearly marked case was that of Mr. Voivodich, a Pole, 36 years of age, who kept the hotel in which the New Orleans delegates stopped. He was attacked August 10th, and recovered after an illness of twenty days. His brother was attacked on August 24th, and died on the 29th with black vomit. The hotel was in good sanitary condition. It is noteworthy that the portions of the town where the worst sanitary conditions were observed were the last infected and suffered the least.

The University of Louisiana is located in Baton Rouge. Strict quarantine regulations were established at the institution, and for a long time after the yellow fever had infected the city it escaped. The first case at the University was traceable to negligence in the matter of quarantine.

The whole number of cases *reported* was 2,435; deaths, 157; probably 500 cases were never reported. As soon as yellow fever was declared to be in New Orleans, a *nominal* quarantine was declared at Baton Rouge; but from all the evidence, it appears to have been of no effectiveness, and every principle of quarantine was violated.

The disease at Baton Rouge was less fatal than at some other places. The population, however, is fixed; there are very few unacclimated residents.

Dr. Howard read several reports of investigations in towns on or near the Mississippi. In one or two instances the nidus of the disease was thought to have been carried from New Orleans in cases of goods. Mulattoes suffered more from the fever than full-blooded negroes.

Dr. Bemiss next read brief reports of the results of his investigations at Port Gibson, Miss., and Brownsville, Tenn.

COMMITTEE'S ANNOUNCED.—*On the Fever Commission's Report:* Drs. J. S. Billings, J. B. Lindsley, L. S. Joynes, S. O. Vanderpool, and J. G. Thomas.

On Dr. Bemiss' Papers: Drs. Mitchell, Sternberg, S. Chopin, C. W. Chancellor, and Kinloch.

On Dr. Cochran's Papers: Drs. Snow, Griffin, Atchison, Dement, and James Stewart.

On Dr. Howard's Papers: Drs. Morris, Inglehart, Wirt Johnson, Plunket, and Turner.

On Col. Hardee's Report: Col. Cutshaw, Drs. Rauch, and Mussey.

On Dr. Harris' Address: Drs. S. Smith, Snow, E. M. Hunt, Stuart and Rauch.

On Resolutions: Drs. Folsom, Snow, Smith, Gihon, Neal, and Plunket.

Dr. Bemiss read reports of his observations and investigations at Lake, Miss., Milan, Tenn., Yazoo City, Miss., and Vicksburg, Miss.

Dr. Cochran read his report about Holly Springs, Miss. This town is 625 feet above the level of the sea, is in a rolling country, and was thought to be exempt from the fever, and refugees from infected places were freely allowed to come there. The deaths were 242 whites and 67 negroes.

The Doctor presented a report on the fever at Chattanooga, prepared by Dr. P. D. Sims, President of the Board of Health of that place, but which Dr. Cochran adopted as his own. Dr. Sims read the paper. Chattanooga is about 750 feet above the sea level. The number of cases was 685; deaths, 164. Percentage of white mortality to cases, 46; colored percentage, 10.7.

Dr. Sims requested that a paper on the history of the hospital-service at Chattanooga by Dr. Mullin, and one on the topographical, telluric, thermometric, and barometric influences of that place, to be sent in by Dr. White, should go along with his report from Chattanooga. He submitted a paper by Dr. W. T. Hope, on the introduction and dissemination of yellow fever by persons; paper by Dr. E. M. Eton, on the fomitic introduction and dissemination of yellow fever; paper by Dr. G. A. Baxton, on atmospheric dissemination of yellow fever and the results of disinfection.

Maj. Walthall, of Mobile, offered a resolution for the appointment of a committee to report upon the general management of epidemics.

Third Day—Nov. 21st. Gov. Holladay invited the members to a reception to-night between 9 and 11 o'clock at the Governor's Mansion.

Rev. C. K. Marshall, D. D., of Vicksburg, Miss., presented the following:

Resolved, That we respectfully urge upon the General Government of the United States the appointment of a commission of competent citizens, who shall be authorized to visit Havana for the purpose of investigating the rise and progress of the yellow fever; and they shall be required to investigate what may be done, if anything, towards the purifying of ships leaving that port during their voyages, and what further may be done in addition to the present methods in use for the farther improvement of the practical workings of an improved and general quarantine system.

Resolved, That the Government be urged to set apart a sum of money sufficient for the full and untrammelled employment of all the time and energies of such commission; and that said commission be composed of phy

sicians, scientists and laymen, who shall enter upon their work with as little delay as practicable.

Dr. S. O. Vanderpool presented the following:

Resolved, That it be earnestly urged upon the President of the United States to confer with the Spanish Government, and request the appointment of an international commission, who shall study yellow fever at Havana, its principal place of endemicate, with a view of adopting measures which shall eradicate its spread in that city.

Col. T. S. Hardee, of the United States Engineering Service, one of the Levee Engineers of Louisiana, Consulting Engineer of the Yellow Fever Commission, etc., placed a large map of New Orleans on a screen, and explained the chief topographical features of the city, and answered several questions propounded him by members.

As New Orleans is supposed to be the great central point from which has radiated the recent epidemic scourge, a brief description of its position and topographical surroundings may be interesting and important. There is no large city in the United States where there is so much demand for sanitary work, and where, at the same time, the natural disadvantages are greater.

The lands in the alluvial region of the Mississippi may be classified under three distinct heads—namely, the highest or cane lands, inferior or open swamp lands, and the lowest or cyprus swamp basins. The lands of the first class are found upon the banks of the rivers and the interior bayous, and are covered with a thick growth of red cane; hence designated cane lands. The lands of the second class, or the open swamp lands, commence where the cane lands cease, and extend to the edge of the lower swamp basins. Then come the cyprus basins, upon which water permanently stands.

High-water mark in the Mississippi river is sixteen feet above the main tidal-level of Lake Pontchartrain. The intervening ridge, known as the Metairie Ridge, is about twelve feet below the same high-water mark. There is a basin of lowland answering the description of the second class of lands, between the Metairie Ridge and the banks of the river, which is about fourteen feet below the high water of the river. Beyond the Metairie Ridge, and between it and Lake Pontchartrain, there is a belt of cyprus swamp on nearly the same level as the waters of the Lake, designated as a pestilential cave around the vital parts of the city. In addition to the threatened overflows from the Mississippi river, from which the city has to be protected, the waters of Lake Pontchartrain are often raised several feet above their normal level during the prevalence of southeasterly gales, which frequently bring the water into some of the inhabited districts of the city. Therefore, the city has a double protection to look out for. The present system of drainage is circumscribed on account of embracing only about one-half of the superficial area within the city limits, or that district lying between the Metairie Ridge and the banks of the river. This drainage is performed by four draining machines, located in the basin previously alluded to, and to which points all waters from rains or otherwise accumulate, to be pumped across and through the ridge

into the basin of Lake Pontchartrain. These machines are operated by both steam and water power—in the latter case employing wheels about thirty feet in diameter, which force the waters from within to a higher level beyond, very similar to an overshot water-wheel reversed. This system of drainage is totally inefficient to produce a good and satisfactory sanitary condition of the city, on account principally of the want of sufficient reservoirs to hold the accumulated water before it is entirely discharged. A new system has been proposed, designated as the enlarged system of drainage, which is to embrace the entire municipal area, which is about 26,000 superficial acres. It embraces, in addition to the already constructed levee on the banks of the river, an upper protection levee on the lake shore, a revetment levee and a lower line protection levee, enclosing the entire area above specified. This work is about one half completed; but owing to the financial embarrassments of the city, the work upon it was stopped about two years ago, after expending several million dollars, and is now in an incomplete condition, without any benefits resulting from the work already done. This new system contemplates the erection of four improved and enlarged draining machines on the lake shore for discharging the accumulated waters from within. The adjacent canals on the outer edge, where these several levees are constructed, would serve as increased reservoirs for the reception of the interior waters, and by the aid of these powerful draining machines, enable the water to be reduced to a lower level in these reservoirs, and make it possible then for the construction of covered sewers through the city in the place of the present open drains, which are offensive in every respect, and which are breeders of disease.

Owing to the nearness of the water to the surface (generally within two feet), it has been found that in a great many instances the privy vaults, which are of brick construction, are subject to leakage, and excrementary matter percolates through the surrounding soil, and during the heat of the summer's sun a great quantity of deleterious gases are exhaled from the surface. This may in time be corrected, when underground sewers can be established, and the refuse matter taken off through these new channels. Now, as a matter of sanitary reform, which can be accomplished without waiting for greater objects to be achieved, it has been proposed as a benefit to the open-drain system, that during the summer months, the city's streets should be irrigated by the water from the Mississippi river, which, from the 1st of May to the 1st of August, would flow of its own accord, through pipes connecting with the river, the water during that period being higher than the gutterways of the adjacent streets. For the remainder of the year, it is proposed that water be supplied for this same purpose of irrigation by means of stationary engines at intervals along the river bank. This, it is claimed, will purify the atmosphere by converting each gutterway into a rivulet, and at the same time cleansing the larger canals or drains by keeping water in them constantly pure.

Many other points in regard to the sanitary engineering of the city were touched upon and illustrated by maps, all to the end of showing the necessity of sanitary reform in this great Southern city. The speaker also alluded to the fact that although the sanitary condition of New Orleans is not such as could be desired, yet this recent epidemic of yellow fever was more virulent and prevalent to a greater extent in parts of the city that were entirely paved and well drained, than in those parts where the streets were not paved, and where drainage was imperfect.

Dr. S. Chopin, Professor in the Medical Department of the University of Louisiana, and President of the New Orleans Board of Health, read a paper on Yellow Fever at New Orleans, which, he said, was this year brought from Havana by the steamship Emily B. Souder, on May 23d. In summing up, the Doctor said:

"The experience of the present year with regard to the efficacy of a strict quarantine goes to sustain the theory of importation and portability of yellow fever. Witness Galveston, which has not developed a single case; witness Shreveport, Monroe, La., and Natchez, Miss., with their shot-gun quarantines turning away pestilence; and witness, again, Mobile, which has certainly escaped an epidemic.

"From the statement and facts given in the accompanying papers, it is an irresistible conclusion that yellow fever is not an indigenous disease of Louisiana or any other part of the United States; but that the many years when it has made its appearance in this country it could be traced, either directly or remotely, to a foreign source.

"We, in Louisiana, operating under a quarantine law not absolute in its restrictions, after an earnest effort in executing it, conducted with all the honesty and energy at our command, assisted by incorruptible quarantine officials, have utterly failed in preventing the importation of the pestilence, which has thrown gloom and sorrow over our whole Southwestern Valley. No *conditional* quarantine can ever be made effective because—first, of the laxity with which laws are unfortunately executed in this country; and secondly, because of the cupidity of commercial interests at stake, who will always move Heaven and earth to evade successfully all quarantine laws and regulations.

"The great object to be aimed at is to prevent the germs or fomites of this dreaded pestilence from having access to our people; and the only certain and sure preventive of yellow fever, in my humble opinion, is *absolute non-intercourse* with ports where yellow fever is indigenous from the 1st of April to the 1st of November of each year.

"Once eradicate this disease from the land, as it must necessarily be by our cold winters, and mark my word, we will never again be visited by the terrible scourge unless introduced from abroad."

Dr. Chopin estimates the cost of the yellow fever in New Orleans in 1878 as follows:

Estimated number of cases	25 000	
Cost of 10 days' sickness of each one at $3		$ 750 000
Cost of 4,500 funerals at $25 each		112 500
About two-fifths of 4,500 victims represent each a capital value of $1,000, amounting to		1 800 000
Remaining three-fifths at $300		810 000
Loss of time of half the industrial population—say 20,000 people—for ninety days, at $2 per day		3 600 000
Values destroyed by the epidemic		7 072 500
Commercial losses by interruption of intercourse with the surrounding country and diversion of trade to other cities		5 000 000
Total losses		$12 07 500

Estimated profits of the summer trade with ports where yellow fever usually prevails $1 500 000

The difference between these two sums—say $10,572,500—represents the actual cost of the epidemic to the material resources of New Orleans.

These figures, made upon a basis deemed moderate in all particulars, show that a trade during half the year with certain tropical ports, and worth to our city a million and a half dollars, is held at a risk of more than twelve millions—the actual losses from yellow fever. An estimate of the total losses to our country from this epidemic has been made by Mr. A. B. Farquhar in a letter to Surgeon General Woodworth, in which he places them at the enormous sum of $175,000,000.

Epidemic in New Orleans in 1839.—Dr. W. G. Austin, member of the Board of Health of New Orleans, read a valuable paper, chiefly devoted to the epidemic of 1839, comparing it with that of 1878, which it was much like, and which he thought clearly proved was imported, and not of local origin. In thirty-five years' experience in Louisiana and Mississippi, he was satisfied there has never been a single case originated there. The fever is indigenous to the climate of the West India Islands, the coast of Mexico and South America, within the tropics. It is brought to us in ships in fomites. Then it spreads until it reaches the air of a cold climate, when the germs fail and become harmless, for one of two reasons: that the germ has lost its force, or there is not an adaptation of the atmosphere calculated to absorb the poison. It is *not* endemic in any of the Southern States.

The cause of it, like all zymotic diseases, is unknown; and instead of taxing our brains to find out what it is, we will find it more profitable to find out its *habitat*—its habits, its infectious and contagious character, its portability, and last of all, how to prevent a repetition of epidemics. By the law of exclusion only can we hope to prevent its introduction into our country, as well as its migratory habits after it is introduced. We have to acknowledge the insect hypothesis as advocated by Lionel Beall and others. The germ is

killed, like insects and hot-house plants, by a temperature of 32°F. It cannot live when the banana is cut down by the cold of winter. Hence it hibernates in the mild winters of the South, as it did in 1873, and in New Orleans, having been brought there the previous year by the ship Valparaiso. Non-intercourse during the spring and summer only can prevent its introduction into our country. If non-intercourse had been ordered fifty years ago, the population of New Orleans would now be trebled.

Dr. Austin proposes that 1878 shall be the last year of yellow-fever in New Orleans, "if we shall declare *non-intercourse* between all the ports where yellow-fever is endemic and New Orleans from the 1st day of May until the 1st of November."

Dr. Richardson of the University of Pennsylvania, at Philadelphia, read the result of numerous microscopic observations on the pathology of yellow-fever. On account of the sensational reports that appeared in the daily press from time to time of Southern physicians having found organisms of various kinds in large numbers in the blood of yellow-fever patients, Dr. White was deputed by the Surgeon-General to report on the correctness of these observations, and visited the infected districts for that purpose, making his observations at the bedside of the patient, and transmitted duplicated specimens for examination to Prof. Richardson. No organisms bearing any direct relation to the cause of the disease were found in any of the secretions; but a considerable increase of those which normally inhabit the body, as would naturally be expected in the low state of vitality attending the acute infectious diseases. But in the tube casts excreted, and in the sections of liver and kidney examined with very high powers of the microscope up to 2,500 diameters, an extraordinary development of the low forms of life, known as micrococci were found, in many cases completely blocking up the tubules and ducts. The pathological significance of these the observers are hardly prepared to state; but their presence in the canals through which the bile and urine are discharged suggests the possibility of their developing to such an extent (as was certainly the case in some of the specimens exhibited) as to prevent the outflow of these important secretions, and thus produce some of the most typical symptoms of the disease.

Assistant Surgeon Robert White, Marine-Hospital service, read a paper on "The nature of contagion—what is the character of the active principle of contagion by which certain diseases spread or are communicated from one person to another?" The numerous and extraordinary ideas formerly held about the cause of epidemics were briefly noticed, and the fact that all were being rapidly supplanted by the hypothesis that, in the acute specific fevers, at least, if not in most other diseases, the contagious element is possessed of vital properties, and has a particular form. He traced the growth of the germ theory of disease from the labors of Pasteur, who demonstrated that the processes of fermentation and putrefaction were produced by minute organisms and the confirmatory observations that the disease affecting the silk-worms, and the numerous

blights and murrains affecting plants and cereals were produced by microscopic growths.

From analogy it has been reasoned that contagious diseases in the human body are often produced by the same means. He described the organisms that have generally been recognized as the agents of contagion—bacteria; but as it has been shown that these exist in various parts of the body in health, and are but rarely found in the blood or tissues in greater quantities in disease than in health, it is evident they have not the active agency in producing disease they have been credited with. The only diseased conditions in which their presence has any special significance are diphtheria and in wounds that have become putrid. In both these conditions they exist in vast numbers; but the organisms that are the cause of the acute infectious diseases are allied to bacteria, but in most cases so minute as to be invisible with any aids to sight that we possess. The evidence in favor of the active principle of contagion being molecular was cited. Chaveau showed that the fluid portion of vaccine virus has not the power of reproducing the vesicle, but that this property resides in minute granules that may be seen under the microscope. The virus of the cattle-plague, when injected into the veins of animals, reproduces the disease. When filtered the portion passing through is innocuous. That remaining on the filter is virulent as the original fluid.

Burdon Sanderson made numerous similar experiments on dogs. The original liquid which produced the disease always contained molecules. The filtrate was always free from them and always innocuous. Tyndall showed that the atmosphere is filled with molecules too fine to be seen with any aids to sight that we possess, and that the entrance of these into fluids are the causes of putrefaction. These observations clearly establish the particular granular or molecular character of contagion, which is neither gaseous nor soluble.

That these particles possess vital properties may be properly inferred from the power of reproduction that they possess. This is an attribute of organic structure only, and does not attend any chemical or physical process that we know of. The smallest particle of the contagion introduced into the system will reproduce itself, and multiply as long as it finds in the surrounding medium the conditions necessary for its development.

The portability of contagion is strong evidence of both its particulate and vital character. Nothing else will explain how it can be retained under circumstances unfavorable for retaining gaseous substances, and when exposed to favorable surroundings reproduce itself.

The essential symptoms of the fever are waste of the nitrogenous tissues, consumption of water, increase of temperature, and of the rapidity of the circulation. There is a striking analogy between these conditions and those required for the development of the low organisms to which disease germs are supposed to be allied; and the germ theory supposes that their development in the system explains the symptoms of fever.

A general belief formerly existed that diseases originated spontaneously. It is now known that the epidemics of the plague and the small pox that formerly decimated Europe did not arise spontaneously, and that while unsanitary conditions favor the extension of the disease in an enormous degree, they cannot originate it without the introduction of the specific germ. Most forms of contagion perish in pure air; therefore, free exposure to the atmosphere is the best disinfectant. But the same experiments that demonstrated the particulate character of contagion showed that some forms retained their power of infection for many months after being dried at a high temperature.

The Executive Committee presented the following:

Resolved. That the several committees appointed to report on the communications made by the Yellow Fever Commission be, and they are hereby instructed to consider all these communications as merely preliminary, verbal statements, and not as formal reports or papers presented to the Association.

2. That the chairmen of these several committees are hereby constituted as a separate committee, and directed to prepare with the least possible delay, a few brief, clear propositions with regard to the cause and best methods of prevention of yellow fever, to serve as a basis for discussion in the body of the Association.

Dr. J. S. Billings, of the Surgeon-General's Office, U. S. Army, read the following:

The committee to which was referred the general report of the Yellow Fever Commission, has examined said report, and respectfully return it to the Executive Committee, with the following remarks:

1. That it is evident that the Yellow Fever Commission has exercised great diligence in collecting data with regard to the late epidemic, and that its labors in this direction deserve the full approbation of the American Public Health Association.

2. That the preliminary conclusions presented by the Commission are in accordance with the prevailing opinion of the medical profession of this and other countries, with the exception of that relating to disinfection.

3. With regard to the method of investigation pursued by the Commission, the committee considers it as satisfactory, and, in fact, the only one which could have been employed so far as obtaining the history of this epidemic is concerned.

4. It is believed to be of great importance that the investigation thus commenced should be made as thorough and complete as possible, in accordance with the methods of the Commission. But this committee thinks it proper to observe that the investigation should take a much wider range, since what is desired is to obtain, if possible, a knowledge of the cause of yellow fever—a knowledge which the most complete history of the epidemic which can be made will not be able to furnish.

The committee go on to say: "If yellow fever is, as we suppose, due to a specific material thing, some means is desired of recognizing the presence of that thing other than the fact of the occurrence of the specific disease in the human subject—some test which will

enable us to say, for instance, here is a jar containing a substance which, if inhaled or innoculated, will produce yellow fever in a susceptible individual, and it will do this in any part of the country if applied under proper circumstances." "The first thing to be sought is some animal or organism on which it may be possible to produce either yellow fever or some specific or recognizable effect." This test obtained, the committee thinks the next step is easy. "We have to carry out a process of elimination to find out what constituents of the decaying filth are essential and what non-essential; what secretions or excretions of the body are essential and what are non-essential to the production of the poison," &c.

The committee thinks that the period when an epidemic is raging is not the time to carry on such researches; and yet there must be cases at hand in order to furnish material for experiment. Havana is suggested as probably the best place for such an investigation.

Dr. Woodworth had a letter from the Brooklyn Trust Company, which placed in his hands $500 for the benefit of physicians incapacitated by service in the yellow fever epidemic.

It was ordered that a committee be raised to consider the matter of relief to physicians' families.

The following, offered by Prof. D. J. Roberts, of Nashville, was adopted:

Resolved, That this Association earnestly recommends the establishment of a chair of Public Hygiene in every medical institution of learning in the United States.

A resolution of Dr. Mitchell, of Memphis, was adopted, requesting Congress to have printed the catalogue of the library collected by the Surgeon-General of the United States Army, and providing for the appointment of a committee of five to urge the same upon Congress.

The views of Hon. J. Randolph Tucker on hygienic legislation, asked by the Executive Committee, were read. He holds, in brief, that the subject of hygiene belongs to the States, and that Congress, through its powers to regulate commerce, may aid the States. He intimated that the whole matter might be satisfactorily managed by co-operative legislation on the part of the Federal and State governments.

Dr. Ezra M. Hunt, of New Jersey delivered the address of the evening—subject, "How to Manage an Epidemic." It showed great attention to studying the best means of ascertaining the facts on which the conditions attending the development of epidemics depend. He pointed out the difficulties of securing proper evidence of the causes at work, and indicated plainly the necessity of employing the keenest and most discriminative powers of observation of which the human mind is capable, in determining the value of the conflicting evidence presented. He recognized, with satisfaction, the growing popular appreciation of the important relations of sanitary science to the public health, and recommended the institution of departments for instruction in hygiene in all our higher educational institutions.

Fourth Day, Nov. 22.—The President announced that the Executive Committee had determined upon Nashville, Tenn., as the place for holding the next annual meeting. The committee will hereafter decide upon the date of meeting.

ELECTION OF OFFICERS.—A preliminary ballot for President of the Association was taken (Dr. Harris declining re election), and Prof. James L. Cabell, of University of Virginia, the first Vice President, received forty-nine out of sixty-three votes. The Secretary was requested to cast the unanimous vote of the Association for Dr. Cabell. Dr. J. S. Billings, of the United States Army, was elected 1st Vice-President; Dr. Samuel Chopin, of New Orleans, 2d Vice-President; Dr. E. H. Janes, Secretary; Dr. Henry B. Baker, of Michigan, Treasurer. Executive Committee: Drs. C. B. White, La.; T. J. Turner, U. S. Army; E. M. Hunt, N. J.; J. D. Plunkett, Tenn.; C. F. Folsom, Mass.; and C. N. Hewitt, Minn.

The committee appointed to consider the papers of Drs. Bemiss and Howard, submitted reports approving and complimenting the work of these gentlemen.

The following, from the Health-Officers Conference, were adopted:

Resolved, That in the deliberate judgment of this Association, it is the duty of every State to establish and adequately maintain an efficient State Board of Health, and in as great an extent as practicable to contribute to the protection of the public health within its own Commonwealth, and by all suitable means to that of the whole country.

2. *Resolved*, That the powers and duties of the State Boards of Health should be so well defined by law and so fully provided for in polity of State administration, that the sanitary interests and protection of all places in the country should be secured.

3. *Resolved*, That a copy of these resolutions, together with a suitable official memorandum, as a basis of correspondence, shall be transmitted to each State Board of Health and each Governor in our country, to the health-officers of ports, and to the government of each State and port that may be concerned in the duties of such mutual efforts for sanitary protection.

Papers of brief addresses on the yellow fever were given by Dr. S. S. Herrick, of New Orleans, supporting the importation theory; Dr. Holliday, of New Orleans, maintaining that the fever was of local origin; Dr. Sternberg, of the United States army, the importation theory, and in favor of the national quarantine; Dr. Van Deman, history of the disease at Chattanooga; Dr. Mitchell, of Memphis, as to the means of relief in epidemics, and descriptive of the work of the Howard Association, and proposing a National Howard Association for work in epidemics; Dr. Gihon, of the United States navy, experience and observation of fever on ship-board, and holding that the fever is the result of living germ, the nidus of which is deposited in filth; Rev. Dr. Marshall, proposing to exterminate the yellow fever germ in ships by the freezing process; Dr. Trescott, of Charleston, S. C., communicability of fever from ship to ship; Dr. Turner, of the navy, showing that on a United States ship upon which fever prevailed, after being laid up for two or three winters fever was again developed; Dr. Selden, of Norfolk, evidence supporting the importation theory, and maintaining that the fever can be kept out by a proper quarantine, and that it is not contagious by person, at least not in this latitude.

In nearly every early instance where fever appeared in 1878 the doctors made blunders in their diagnoses—generally calling it ma-

lignant bilous fever, or something of that sort—and thereby losing lives and time.

The following committees were announced:

To Petition Congress to Publish the Catalogue of the Library Collected by the Surgeon-General: Drs. R. W. Mitchell, Tenn.; H. I. Bowditch, Mass.; S. M. Bemiss, La., Wirt Johnson, Miss., and H. B. Baker, Mich.

Committee of Council to Executive Committee on National Legislation: Drs. Webb, Ala.; Gibbon, Cal.; Wall, Fla.; Thomas, Ga.; Rauch, Ill.; Sutton, Ind.; Johnson, Miss.; Steiner, Md.; Bowditch, Mass.; Taylor, Penn.; Minor, O.; Hodgen, Miss,; Snow, R. I.; Atchison, Tenn.; Joynes, Va.; Hitchcock, Mich.; Reeves, W. Va.; Toner, Washington; Eaton, N. Y.; Lebby, S. C.; Wood, N. C.; Chamberlain, Conn.; Conn, N. H.; Hollott, Vt.; Kirkpatrick, Texas; Griffin, Wis.; Hand, Miss.; Lilly, N. J.; McFarlan, U. S. army; Gihon, U. S. navy, and Hebersmith, U. S. Marine Hospital.

Dr. Billings' proposition to have the census-takers gather certain sanitary statistics was adopted. It was also ordered, on motion of Dr. Steiner, that a committee of three be appointed to urge upon the special committee of Congress on the next census the great importance to public health of this matter.

The committee to whom was referred the papers of Dr. Cochran, reported, approving and commending the same.

Papers on the yellow fever, or topics immediately relating thereto, were read by Drs. Plunkett, of Nashville; Austin, of New Orleans; Lindsley, of Nashville, and Morris, of Baltimore. Rev. Dr. Marshall, of Vicksburg; Drs. Dowell, of Texas, and Bell, of New York, made brief addresses.

From Dr. Morris' paper it appeared that the disease prevaling at Baltimore in 1876 was "localized yellow fever," though at the time distinguished medical authority pronounced it malarial fever. Forty out of forty-four persons attacked in the city died. The disease was rooted out by the removal of all the people of the affected neighborhood to the quarantine.

Dr. Bell was by no means satisfied with the importation theory. He had tried steaming the hold of ships with excellent effect in killing the fever.

Dr. Dowell said that the home of yellow fever has never yet been discovered. It is certainly not indigenous to Brazil, and perhaps not to the West Indies.

Dr. Stewart, of Baltimore, believed in removing the sick from their houses, and burning their bedding and clothing.

Major W. T. Walthall, of Ala., who has probably had more experience as a yellow fever nurse than any man in the country, didn't believe that the sanitary condition of the city had any effect in checking the fever. He had seen it most virulent in the cleanest and purest sections, while the dirty and filthy portions were comparatively exempt.

Dr. Sims, of Chattanooga, gave facts showing the efficacy of dis-

infectants used in houses where the fever had appeared; also showing how well the Nashville policy of isolation had worked.

Dr. Dement, of Huntsville, Ala., gave an account of the fever occurring there among refugees. Those who attended the sick did not take the fever.

Dr. Lloyd Howard, of Maryland, gave some incidents showing how the sleeping-cars had been instrumental in spreading the fever. The Pullman cars ran from within fifty miles of New Orleans to Cincinnati, and dozens of people sick with the fever slept in their berths. The Doctor, it seemed, did not meet with very many physicians in the South who now hold to the theory of non-contagion. At least twenty-five had told him that they had formerly been non-contagionists, but had to change their opinions. He now believes in contagion under certain circumstances.

Dr. Atchison, of Nashville, lamented that some gentlemen had expressed themselves as not believing in the cleanliness of a city as a fever preventive or palliative. He believed in internal sanitation, segregation, deportation of population, &c.

Dr. Bell, of New York, showed that most of the so-called cleanly places where fever prevailed were probably filth-saturated below the surface.

The following propositions were adopted:

1. Yellow fever of 1878 was a specific disease, not indigenous to or originating during that year spontaneously in the United States, and its appearance in this country was due to a specific cause.

2. Quarantine established with such rigor and precision as to produce absolute non-intercourse will prevent the importation of the specific cause of yellow fever.

3. It is the duty of the General Government to aid in the establishment of a practical and proper quarantine by all means in its power.

4. It is the duty of the General Government to appoint a commission of experts to make a thorough investigation into the cause of yellow fever and the best methods of preventing its introduction into this country, and to make such an appropriation as will permit of securing the services of the best men, and of the best means for carrying out such investigations.

5. That it is the duty of the General Government to invite foreign nations to co-operate with it in the establishment of uniform and effective international quarantine regulations.

6. That whatever may be the practical value of quarantine, there is no doubt of the importance and value of internal sanitary measures in the prevention or modification of epidemic yellow fever, and that this Association strongly urges upon State and municipal authorities the great amount of responsibility which rests upon them on this account at times when no disease is prevalent or threatening.

The following committee was appointed to collect data upon which to base an appeal to the medical profession of the United States for funds for the relief of widows and orphans of physicians who died while serving in the epidemic: Drs. Charles N. Hewitt, Red Wing,

Minn.; R. W. Mitchell, Memphis, Tenn.; Wirt Johnson, Jackson, Miss; C. B. White, New Orleans; Stephen Smith, New York city; L. H. Steiner, Frederick City, Md.; T. L. Neal, Dayton, Ohio.

Dr. Snow offered the following:

Resolved, That the heartfelt thanks of this Association and of the whole people of the country are due to Mrs. Elizabeth Thompson, of New York, and other philanthropic individuals and associations who, by their liberal contributions, have enabled the Yellow Fever Commission to prosecute its investigations, and also to those who have been concerned in organizing the work of the Commission and in presenting the result of its work to this Association.

Dr. Steiner, of Maryland, made a glowing speech in support of the resolution, praising Mrs. Thompson.

The resolution was adopted unanimously by a rising vote.

The committee on petitioning Congress in reference to census was announced as follows: Drs. Steiner, Hunt and Harris.

Analyses, Selections, &c.

The Action of Veratrum Viride.—We take the following remarks from a most valuable general address delivered before the Society of the Alumni of the Medical Department of the University of Pennsylvania, March 14, 1878, by Dr. W. A. B. Norcom, of Edenton, N. C.:

Take up almost any work on "Practice of Medicine," and turn to a chapter on some acute internal inflammation, and you will see it stated that the heart acts with augmented force and frequency, and that the cardiac depressant, veratrum veride, is given to control it—that it is given to allay vascular excitement, etc. Undoubtedly the heart does act in acute diseases with increased frequency, but does it not do this to make up for lost power? Hering proved this by experiments on horses, and his conclusions are accepted by Prof. Flint, Jr., by most physiologists and physiological physicians, who say that they may properly be applied to man. I will state them here—"In pathological increase of the heart's action, as in febrile movement, the rapidity of the general circulation is generally diminished, it may be, to a very great extent."

"Whenever the number of beats of the heart is considerably increased from any cause, the quantity of blood discharged at each ventricular systole is very much diminished, either from lack of complete distension, or from imperfect emptying of the cavities."

Admitting the truth of these conclusions, and as applica-

ble to man, a cardiac depressant would certainly be contra-indicated. And further, *if* veratrum viride diminish the frequency of the heart-beats, and increases their power, as some of the best therapeutists assert it does, then it must be a cardiac tonic. One of the most distinguished professors of this school, in discussing the treatment of a most important disease, emphatically stated at the Medical Congress recently held in this city, that this remedy was a pure depressant, while one of the most eminent pathologists and therapeutists of New York,* in one of his lectures on *Diseases of Children*, in speaking of digitalis, says—"It may be said of this *as well as of veratrum*, that while it reduces the frequency of the heart-beats, it certainly increases their power." In general puerperal peritonitis, that great practical physician, Prof. Barker, says in his work on *Puerperal Diseases*, that he gives veratrum viride to depress vital power and allay vascular excitement, while he admits that this is "a disease which tends rapidly to destroy life by asthenia." He calls the remedy a vascular sedative.

I could run over the names of many eminent physicians, and show you how antagonistic are their views on these subjects, and it is astonishing how unscientifically some of them write about them. I think the true teaching of modern medicine on one of these subjects is expressed by Sir William Gull, when he says that "perverted functions in disease, however exaggerated, are due to failure and not to excess of the vital powers."

But there are, as I have said, many, distinguished in our profession, who hold that the heart, in the beginning of acute disease, does act with a power greater than in health. These I am forced to think are still swayed by the teachings of those horrible old antiphlogistic days which called *commotion* force. For myself, I cordially endorse the conclusions of Hering as applicable to man, and strongly hold the opinion that veratrum viride is a heart-depressant.

Should Hering's conclusions be found to be correct, the word "sthenic" as applied to inflammation will disappear, and we will have no use for cardiac sedatives in acute disease. I am almost ready to say now, with the lamented Anstie, that we have no use for them. He boldly said they, with many other words and phrases we often use, "never had any meaning nor any intention except the more or less conscious one of concealing their inventor's ignorance of that which they profess to reveal."

*Since the delivery of this address, this gentleman told me that he now regarded verat. viride a cardiac sedative.

Book Notices, &c.

Principles and Practice of Surgery, being a Treatise on Surgical Diseases and Injuries. By D. HAYES AGNEW, M. D., LL. D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Profusely Illustrated. In Two Volumes. Volume I. Philadelphia: J. B. Lippincott & Co. 1878. 8vo. Pp. 1062—x. (For sale by West, Johnston & Co., Richmond.)

This is a great book. The author is in the highest sense a *practitioner*, and the work is thoroughly practical. We do not speak too highly of the volume before us in saying that it should be in the hands of every *general* practitioner of medicine. We have to speak thus summarily because the narrow compass of space granted us in this number of the *Medical Monthly* does not allow us even to give the table of contents. We can only mention the titles of the eleven chapters which compose this volume: Introductory, on Surgical Diagnosis—18 pages of general directions that ought to be read by all practitioners. Chapter I, treats of Inflammation, which article may possibly be the subject of mild criticism, in one or two particulars, if one adopts the views of some recent investigators. Pages 152–254 inclusive are taken up entirely with the consideration of Wounds in general and their Treatment—a very valuable chapter. This is followed by Chapter III, on Injuries of the Head; Chapter IV, Injuries of the Chest and Abdomen; and Chapter V, Wounds of the Extremities. Chapter VI considers Diseases of the Abdomen; Chapter VII is on Diseases and Injuries of the Blood-Vessels; Chapter VIII is on Ligation of the Arteries; Chapter IX, Surgical Dressings; and Chapter X—an exceedingly valuable chapter of 325 pages—treats of Fractures and Diseases of Bone.

To say that there is nothing in the work which is opposed to the teachings of others, is to say that which renders the work nothing more than a re-publication, and useless as a new work. There are many practical suggestions made by Dr. Agnew which cannot be properly reviewed—commended or rejected—until practically tested by other practitioners. But our impressions are that this volume will be one of the comparatively few medical books which will be authoritative long after this generation of doctors has passed away.

The publishers have done their work handsomely. The second volume will soon follow.

Practical Surgery: Including Surgical Dressings, Bandaging, Ligations and Amputations. By J. EWING MEARS, M. D., Demonstrator of Surgery in Jefferson Medical College; Professor of Anatomy and Clinical Surgery in Pennsylvania College of Dental Surgery; Surgeon to St. Mary's Hospital, etc. With 227 Illustrations. Philadelphia: Lindsay & Blakiston. 1878. 12mo. Pp. 279. Cloth. Price $2. (From Publishers.)

The title of this book as above given shows its scope. As far as it goes, it is an exceedingly practical and much to be appreciated work, and will be a work for constant reference on the part of all surgeons who may have it in their libraries. We advise all practitioners to have it. A great many useful hints are given in this hand-book that are not contained in more pretentious treatises. The text is graphically descriptive, and the illustrations are quite accurate, and save an immense deal of reading.

As usual, the publishers have done their part well.

Diseases of the Bladder and Urethra in Women. By ALEXANDER J. C. SKENE, M. D., Professor of Diseases of Women in the Long Island College Hospital, etc., New York: William Wood & Co. 1878. 8vo. Pp. 374. Vol. III. (For sale by Messrs. West, Johnston & Co., Richmond, Va.)

The author of this book is the well known contributor of some of the most useful journal articles that have ever been published; and as we might have expected, his present publication is thoroughly practical. Dr. Skene has evidently adopted the plan of "lectures" in order that he might be more practical in what he has written. But he has not tried personally all the methods which he has recommended or condemned; else he would have been more favorable to some of the plans of treatment which impliedly he censures; or else he has had different results from those which we have been fortunate enough to have, or else have fallen to the good fortune of others. For instance, Dr. Skene represents it as difficult to introduce the finger into the bladder, and at the same time pass into the organ an instrument. The exceptions to a contrary record must be rare, or else we have had a most fortunate experience, and so have others who, according to our knowledge, have practised the plan. As to references for authority, we find some inaccuracies as to the *original* articles. For instance, on page 209, we find the successful method practised by Dr. Hunter McGuire, of drainage in cystitis accredited to another journal, printed in June, 1874, whereas that paper was a *re*-publication from the pages of the *Virginia Medical Monthly*, of April, 1874. Such an

error, of course, grows out of the infrequency of the general subscription to Southern medical journals that is common in the North, although Southern practitioners are in the habit of subscribing to Northern journals.

Summing up a conclusion: This book, notwithstanding its few inaccuracies of reference, as above pointed out, and the implied condemnation of the author of certain practices which have either not been personally put to test by him, or else have been remarkably unfortunate, as compared with the large experience of other practitioners, since Dr. H. T. Bahnson, of Salem, N. C., published his paper in the *Transactions* of his State Medical Society in 1872—notwithstanding these things, this book is exceedingly useful to every practitioner who undertakes in any manner to treat female diseases.

Elementary Quantitative Analysis. By ALEXANDER CLASSER, Professor in the Royal Polytechnic School, Aix-la-Chapelle. Translated, with additions, by EDGAR F. SMITH, A. M., Ph. D., Assistant in Analytical Chemistry in the Towne Scientific School, University of Pennsylvania. With 36 Illustrations. Philadelphia: Henry C. Lea. 1878. 12mo. Pp. 338. (For sale by West, Johnston & Co., Richmond.)

This work is of special interest to chemists, and has the endorsement of the highest authorities. Its position as a standard work may be inferred from the fact that, besides being used as a text-book in many German colleges, translations have been made in France, Russia and Poland. The work is not essential in the library of the practitioner of medicine, however valuable it may be to those who are students of applied chemistry.

Treatise on the Science and Practice of Midwifery.—By W. S. PLAYFAIR, M. D., F. R. C. P., Physician Accoucheur to H. I. and R. H., the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College, etc., etc. With Notes and Additions by ROBERT P. HARRIS, M. D. Second American from 2d and Revised London Edition. With two plates, and 182 Illustrations. Philadelphia: Henry C. Lea. 1878. (For sale by West, Johnston & Co., Richmond.)

This Treatise is already familiar to the American profession, by whom it has been so highly esteemed as to demand a second edition at this early date after its first appearance. The special advantage of the work to the student consists in its usually systematical accuracy of detail: and to the practitioner, in its *practical teachings*. His recommendations of changes from the former practice of obstetricians—wherever such changes are suggested—have the authority of test expe-

rience. Playfair's *Midwifery* is a safe book to rely on in practice; and in saying this we say a great deal more than can be said of a large majority of even the text-books placed in the hands of college students. Both the author and American editor, in attempting to include the latest advance in the present edition, have done their work well. Some points have, of course, escaped their notice; it would be impossible even to note every advance in a book of this size.

Spinal Curvatures and Treatment of Spinal Diseases by Plaster-of-Paris Jacket (Sayre's Method). Extract from Report on Surgery to Nebraska State Medical Society, at Fremont, June 5th, 1878. By S. D. MERCER, M. D., Chairman. Omaha, Neb.: 1878. Pp. 32. Flexible cover. (From author.)

This is a very neatly published reprint, with several wood cuts illustrating cases under treatment. It is in advocacy of Prof. Sayre's well-known method. The day has come when, with present lights before us, any other plan of treating Pott's disease and similar spinal curvatures, amounts to malpractice—excepting, of course, those exceedingly rare instances in which some contra-indication exists that we have never seen, nor expect to see. We know nothing that will take the place of the plaster-of-Paris. Silicate of soda, as Dr. E. H. Hoover, of Harrisonburg, Pa., has suggested, is not only took expensive, but is too dense, preventing any exchange of gases, and interfering with the functions of the skin. Besides, it is almost impossible to cut off the jacket when silicate of soda is used—the material is like glass. No improvement has yet been made upon Dr. Sayre's method, nor do we see how one could reasonably expect better results from any treatment yet to be devised. The pamphlet is very instructive to those who have not read Dr. Sayre's monograph.

Editorial.

American Public Health Association.—Having overrun our space to give a condensed report of the late proceedings in this city, we have no room for comments. The general opinion in this community is that the session failed to establish any new important point regarding yellow fever. It was shown, however, that under certain circumstances which prevailed in some afflicted sections during the past summer, yellow fever manifests the characteristics of a contagious disease. The importance of over-land or railroad quarantine was also established—contrary to formerly received popular opinion. But in the way of treatment of the disease, or in abating its spread when once introduced into a community, not one valuable lesson seems to have been learned. The general disappointment as to the results of this meeting consisted in the continuous read-

ing of dry details which it was impossible for any listener to retain. Had authors of papers reserved the great mass of details for publication, and presented more of summaries, we venture the opinion that profitable discussions would have arisen, and valuable results would have been accomplished.

The Transactions of the Medical Society of Virginia, Session 1878, will be published with the January number, 1879. See advertisement of *Virginia Medical Monthly* for further particulars.

Lindsay & Blakiston's Physician's Visiting List, for 1879, is ready, and may be ordered through any book dealer or druggist, or through this office, or directly of the publishers in Philadelphia. This "List" is so well established as the favorite of a large part of the profession, that the above announcement is all sufficient. In the way of printed matter, besides an almanac for 1879 and a part of 1880, it contains Marshall Hall's Ready Method in Asphyxia, a list of the more common Poisons and their Antidotes, and a Table for Calculating the Period of Utero Gestation.

Dr. C. Henri Leonard's Physician's Pocket Day Book is now ready for sale by the publishers in Detroit, Mich.; price $1; with name on side in gold leaf, $1.25; name, town and State, $1.50. This book accommodates daily charges for 20 or 40 families weekly; has a complete obstetrical record for 94 cases; and monthly memoranda for debtor and credit accounts. It serves all the purposes of a *petit* ledger, as well as a visiting list. There are no lists of remedies, doses, antidotes, calendar, etc., in the book; but the arrangement of the blank pages is excellent, and the book is issued nicely.

Dr. Ralph Walsh's Physician's Handy Ledger is also ready. It is intended as a companion to "Walsh's Physician's Combined Call-Book and Tablet." The arrangement is excellent, economizing time in making entries, and, at the same time, showing at a glance the work done and charges made. This is one of the works which we have named as one of our "Special Offers" in the advertisements recently issued.

Walsh's Physicians' Combined Call-Book and Tablet.—The fourth edition is just ready—in time for new year. We have several times already stated our opinion that this is the most useful of all the visiting lists published. It contains much useful printed matter demanded by the practitioner at the bedside, when he has not the opportunity to consult his office library. It may be purchased of any bookseller, or will be sent on receipt of money from this office, or from the publisher, Dr. Ralph Walsh. Price $1.50.

Mr. Henry C. Lea, the popular medical publisher of Philadelphia, announce the following publication as in preparation: (1) *The National Dispensatory.* By Alfred Stille, M. D., LL.D., Prof. Theory and Practice of Medicine, etc., Univ. Penn., and John M. Maisch, Ph.D., Prof. Mat. Med. and Botany, Phil. Col. Pharm., with 205 Illustrations; 8vo; pages over 1400. (2) *Clinical Manual for the Study of Medical Cases.* By James Finlayson, M. D., Phys. and Lect. on Clin. Med., Glasgow Western Infirm., etc.; 12mo; pages 500; with 85 Illustrations. (3) *Principles and Practice of Surgery.* By John Ashhurst, Jr., M. D., Prof. Clin. Surg., Univ. Pa. 2d and revised edition; 8vo; 1000 pages; 550 Illustrations. (4) *Principles and Practice of Gynæcology.* By Thomas Addis Emmet, M. D., Surg. Woman's Hosp., N. Y.; 8vo; over 800 pages; numerous illustrations. (5) *Practice of Surgery.* By Thomas Bryant, F. R. C. S., Surg. Guy's Hosp. 2d Amer. from 2d revised edition; Imperial 8vo; over 1000 pages; 600 Illustrations. (6) *System of Human Anatomy,* including its Medical and Surgical Relations. By Harrison Allen, M. D., Prof. Physiol., Univ. Pa. With an Introductory Chapter on Histology, by E. O. Shakespeare, M. D., Ophthalmologist to Phil. Hospital. 4to; several hundred original illustrations on lithographic plates, and numerous wood cuts. (7) *Manual of Pathological Histology.* By V. Cornil, Prof. in Fac. Med., Paris, and L. Ranvier, Prof. in College of France. Translated with notes and additions by E. O. Shakespeare, M. D. 8vo; 600 pages; over 300 illustrations.

Dr. Alban S. Payne, Markham, Fauquier Co., Va., has recently been appointed by Genl. Le Duc, Commissioner of Agriculture &c., to investigate and report on the subject of Hog Cholera and Cattle Disease. Expenses &c. are to be paid.

The Philadelphia Druggist and Chemist, edited by Dr. C. C. Vanderbeck, of Allentown, N. J., has been as successfully conducted as to lead to doubting the size of the pages. To new annul subscribers, who remit $1.50, the journal is sent fifteen months beginning October number., 1878.

Southern Practitioner is a new monthly journal of thirty-two pages to be begun January 1st, 1879, in Nashville, Tenn. Price, $1 a year. Professors George S. Blackie, T. Chalmers Dow, Deering J. Roberts and Duncan Eve, of the Nashville Medical College, are editors and proprietors. While we feel

confident that it will be an excellent journal, and worthy of liberal patronage, it is in error in claiming to be the "cheapest medical publication in the South." The *Virginia Medical Monthly* furnishes about, if not more than 1,200 pages a year for $3. See advertisement. But the announcement made by the *Southern Practitioner* shows industry and ability, and we bespeak for it a handsome supporting patronage.

Obituary Record.

Dr. E. T. Easley.—A special meeting of the Alumni Association of the Louisville Medical College was held in the College Building on Tuesday, October 8th, 1878, at 2½ P. M., for the purpose of taking action regarding the death of their late President, Dr. E. T. Easley, of Little Rock, Ark., who died of yellow fever, September 30th, at Memphis, Tenn.

After the chairman had stated the object of the meeting, Dr. Irvin Keller arose and made the following remarks:

"*Gentlemen*,—We have met to-day to mourn the loss of one of our greatest; to pay a tribute to the memory of one of our noblest; to weave a garland about the tomb of Easley. The occasion opens the flood-gates of memory, and there comes rushing upon me numberless illustrations of his beautiful character, great mind and unfaltering devotion to the cause in which he fell. Young, ambitious, his was a life of immense possibilities. The gates of a glorious future stood ajar. The realization of his fondest hopes was almost consummated. He was standing upon the threshold of greatness, with the "amethyst bowl" and its magic elixir just touching his lips when this sudden, fearful, terrible holocaust swept from human sight a figure destined by nature to stand pre-eminently among the greatest, but closed forever in his book of human purpose, human activity and human obligation. So it is with human hopes; they dazzle but to dismay. To-day they furnish food for intoxicating dreams and glorious anticipations—to-night their seductive beauty is all lost in ashes, with no resurrecting phœnix.

In his death, science has lost an advanced thinker; the world a great surgeon; society a chaste ornament, and our dear old *Alma Mater* a standard bearer who ever carried her banner in the front rank of the profession. He fell with his armor girded about him, and in his fall was displayed as sublime a heroism as ever immortalized warrior, statesman or divine.

"'Twas his own genius gave the final blow,
And helped to plant the wound that laid him low—
So the struck eagle, stretched upon the plain,
No more through rolling clouds to soar again,
Viewed his own feather on the fatal dart,
And winged the shaft that quivered in his heart;
Keen were his pangs; but keener far to feel,
He nursed the pinion which impelled the steel;
While the same plumage which had warmed his nest,
Drank the last life-drop of his bleeding breast."

The chairman appointed a committee of three to draft suitable resolutions. The following is their report as read by Dr. M. F. Coomes, which was unanimously adopted:

"*Whereas*, By the dispensation of an all wise providence, our highly honored and sincerely beloved professional associate and President has been removed from our midst, we, the members of the Alumni Association of the Louisville Medical College adopt as an offering of affection and esteem to his memory the following resolutions:

"*Resolved*, That his devoted love for his profession, his earnest pursuit after medical knowledge (which pursuit showed fulfilment by his advanced thought and remarkable acumen), placed him in the front rank of physicians, whose genius and application gave promise of noble fruition.

Resolved, That among the lofty spirits of the medical profession, who bade farewell to friends, family and home, to offer their lives willingly in the cause of humanity, he is to be deeply mourned, and that he was a shining light, which, like the sun, can never set.

"*Resolved*, That in his death, this Association, the medical profession and the world at large has lost a zealous and noble member, a faithful and useful friend, and an honorable and honored citizen who, while living, was a crown-jewel among us, and whose valiant death became him as much as all his noble deeds reflected luster on his life.

"*Resolved*, That these resolutions be spread upon the records of this Association, be published in the medical press of this city, the *Virginia Medical Monthly*, the daily press of Louisville, Memphis and Little Rock, Ark., and a copy, duly attested, be presented to his family.

"*Resolved*, That the members of this Association create a fund, to be known as the Alumni Memorial Fund, the proceeds of which shall go to the erection of a suitable tablet, to endear the names of our members who have fallen by the yellow fever scourge of 1878, imperishable to this institution."

M. F. Coomes, Geo. M. Carnochan, Irvin Keller, Committee.

C. W. Null, M. D., Chairman. W. H. Mayfield, Secretary.

Julian J. Chisolm M.D.

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Original Communications.

ART. I.—**Biographical Sketch of Julian J. Chisolm, M. D.,** Professor of Eye and Ear Surgery in the Medical Department of the University of Maryland, etc., Baltimore, Md.

Prof. Julian J. Chisolm, M. D., of Baltimore, whose likeness accompanies this number, was born in Charleston, South Carolina, April 16th, 1830. His ancestors settled in South Carolina in colonial times, and took an active part in the first Revolution. For four generations, this family has been among the leading ones in Charleston, and still retains this position.

The subject of our sketch graduated at the Medical College of the State of South Carolina in March, 1850. He had spent three years in the office of Dr. E. Horlback, a well-known practitioner of his section, and had as fellow-students in the office, Prof. Gaillard Thomas, M. D., the distinguished gynæcologist of New York, and Prof. F. T. Miles, M. D., of the University of Maryland, well known as a successful lecturer in anatomy.

In accordance with the established custom of young professional debutants in this country, Dr. Chisolm went abroad to prosecute his medical studies in Paris. Thirty years since, this attractive city was the recognized centre of medical knowledge. Andral, Chomel, Trousseau, Claude Bernard, Robin, Lebert, Velpeau, Nélaton, Malgaigne, Desmarres, Siebel, and a host of equally brilliant names, were

clustered around the University of France. It was from such sources that Dr. Chisolm drew his inspiration in medicine and surgery. He found over two hundred young American physicians walking the Parisian hospitals. Many from this band of hard workers are at present among the leading physicians of our large cities. In Paris, at 8 o'clock in the morning, summer and winter, the clinical professors made their daily visits to the wards. It was the practice of some young physicians from America to anticipate these formal visits by making an earlier round with the resident physicians of the hospitals. In this way, for a pecuniary consideration, they had an opportunity of making a careful examination of all new cases, and were prepared to appreciate the remarks of the professors at the later visit. The subject of our sketch could always be found with these early risers, visiting the hospitals by candle-light long before dawn, to have a quiet hour or two at the bedside of the sick with the resident physicians.

In 1852, when Dr. Chisolm returned, from a sojourn of two years abroad, to Charleston, his native city, the Medical College of South Carolina had been, for many years, the attractive school for the Southern States, as the one at Philadelphia was for the North and West. The medical classes at this school were very large, and the diploma was valued as a passport to any Southern community. For this reason, it was much sought after by Southern men. In the European capitals, medical teaching is not confined to the University professors. Often the most attractive courses on various medical topics are given by aspirants for professorship outside of the University walls. Most of these courses are gratuitous. Dr. Chisolm conceived the idea of inducing some of his medical friends to give similar courses of gratuitous lectures for the benefit of the medical classes of the South Carolina College. The lectures of the week, from each of the members of the college faculty, were condensed into one and recapitulated at night to all the college students by this young corps. Surgery was the recapitulatory work assigned to Dr. Chisolm, and full classes of attentive listeners indicated the attractiveness of his teaching. From the success of the recapitulations, a summer school was formed for the study of

medicine in 1833, and was satisfactorily carried on for many years until the summer lecturers were called away to fill professional positions in distant medical schools. The progress of Dr. Chisolm as a successful teacher in surgery was so marked, that when a vacancy occurred in the surgical chair of the Medical College of the State of South Carolina in the summer of 1858, he was elected to fill the vacancy from a large list of distinguished names which the medical faculty had before them. He was then but twenty-eight years of age, and was the youngest Professor of Surgery in the United States. In those days, medical colleges were not numerous, and the position of Professor was one of high honor.

Dr. Chisolm spent the greater part of 1859 in Europe for further study in surgery. On his return home, he withdrew from general practice and made a specialty of surgery. In the following year, he erected a private surgical hospital, containing sixty beds, to accommodate his many private patients from a distance, and often had his building full of the most interesting surgical cases.

When the State of South Carolina seceded from the Union in December, 1860, the large class of medical students in attendance at the college organized with the military companies, and by unanimous vote, Prof. Chisolm was called to the captaincy of one, and Prof. F. T. Miles, recently elected to the chair of Anatomy in the college, to the captaincy of the other. These were among the first volunteer companies formed for active service in the great struggle. There was more important work to be done by surgeons than drilling soldiers. Prof. Chisolm, therefore, declined the charge of the company, and also the surgeoncy of the First Regiment of Rifles of South Carolina, the first well-organized command in the service of the State, and the very nucleus of the State Army, afterwards transferred to the Confederacy when other States made common cause with South Carolina.

In those days, medical libraries were not as common as now, and from the long uninterrupted peace which our country had enjoyed, there had been no call for works on military surgery, and there were none to be had in the Southern country. Very few medical men had seen more than the accidental gun-shot wounds, which occurred too seldom to

attract much attention. Prof. Chisolm had spent a portion of the summer of 1859 in Italy when the Franco-Austrian war was being waged for the restoration to Italy of the Lombard-Venetian States. The hospitals of Milan were crowded with wounded from the recent battles of Magenta and Solferino. He here had an opportunity to study gunshot wounds in all their horror. As the Professor of Surgery in the leading medical school of the South, he felt it his duty to do all in his power to alleviate the sufferings of his fellow-countrymen who had, with one impulse, taken the field with its hardships, exposure and dangers. The medical staff of the Confederate army, comprising over 2,000 physicians from civil life, had but little knowledge of military surgery, nor could they find books for instruction. With a good medical library at his command, he set about the preparation of a handbook for instruction in these matters, and had the satisfaction of presenting the first copy to the Surgeon-General of the Confederate States, while the first battle of Bull Run was being fought. Chisolm's *Military Surgery* at once became the army guide, and was eagerly sought for by line officers as well as by the medical staff. The first edition, although a large one, was exhausted in six weeks, and was followed by a second, and that by a third edition, which met with equal acceptance. During the progress of the war, a few copies of this very useful work found their way to Europe, and were favorably received by the English medical press. It was pronounced by them the best handbook of military surgery that appeared from either contending army during the war.

As an army surgeon, Dr. Chisolm was assigned to the duty of organizing military hospitals, and afterwards became chief surgeon of a large military hospital at Richmond. Later in the war, the Confederate Government utilized his administrative ability, and transferred him to Columbia, S. C., with instructions to establish extensive chemical works for the purpose of making the army self-supporting as regards medicines. This point was selected as being midway between Charleston and Wilmington—the only seaports on the Atlantic that the active blockade of the Federal Navy could

not altogether close. Her central depot became the general one for army medical supplies. He was urged to use all his energy and judgment in pushing on this all-important work. He was allowed the privilege of detailing from the commands in the field all the scientific help he needed, and was given *carte blanche* to draw from the treasury all the money he wanted. Every day the blockade running was becoming more precarious, and imported supplies very scanty and very expensive. In a very few months, the army chemical works, with its corps of scientific and practical workmen, were furnishing a large number of medicines, in place of the imported drugs. These workshops were rapidly meeting the requirement of the army in many things, when General Sherman, with his invading army, destroyed Columbia, and committed to the flames all the government shops. The surrender at Appomattox Courthouse soon followed, and with it the end of army life.

In the fall of 1865, Professor Chisolm returned to Charleston and resumed his professional labors. The medical faculty in preparing for college lectures, unanimously elected him Dean of the Medical College, and in the face of the extreme depression which pervaded the entire South, he commenced the hard task of re-organizing the faculty.

Five years of active war, and the rigid blockade, had kept out all new books from those in the Confederacy. This period was a blank as far as modern medical literature was concerned. With the desire of knowing what had been done in medicine during these five long years of home incarceration, Professor Chisolm spent the greater part of 1866 in Europe. His special attention, on this occasion, was given to the study of eye and ear diseases, for which he had for many years exhibited a preference. Upon his return home, he was appointed by the Governor of South Carolina to re-organize the Medical Department of the South Carolina University, established at Columbia. This honorable position he did not accept, as he did not deem the times propitious for such an undertaking. The frightful political condition of the State, and negro rule with its exultant triumph over the white population, was inducing all who could get away from South Carolina to do so.

At this juncture, Professor Chisolm was elected to the chair of surgery in New Orleans, but did not accept. A few months later, in 1868, he moved to Baltimore, resigning his professorship and position of Dean in the Medical College of the State of South Carolina. He offered his professional services to the inhabitants of Maryland as an eye and ear surgeon. His well known ability as a teacher in surgery did not allow him to remain long out of harness. He had only been in Baltimore four months when a special chair was made for him in the University of Maryland; and before the year had expired, he was unanimously elected Dean of the Medical Faculty—a similar position to the one which he had resigned eight months before in Charleston. Simultaneously with the offer of a professorship in the University of Maryland, came similar offers from St. Louis, Mo., and Louisville, Ky.; but the Baltimore offer was preferred.

From this time to the present, Professor Chisolm's professional career has been one steady, uninterrupted success. His name is familiar to the profession in America through his many able articles. All the leading medical journals of the country are frequent recipients of his pen work. Among those best known, we would mention "The Internal Administration of Strychnia in Large Doses for the Cure of Amaurotic Affections;" "The Value of Atropia in Eye Surgery;" "The Advantages of Chloroform as an Anæsthetic;" "The Necessity of Removing Promptly Eyes Lost by Accident;" "How to Treat Chronic Aural Catarrh;" "The Advantages of Salycilic Acid in Arresting Aural Discharges."

As a medical teacher, he ranks among the few really eminent men in this country.

In the University of Maryland, he has made the chair of Eye and Ear Surgery so attractive, that too many young men are disposed to take up a specialty before they have acquired a general knowledge of practical medicine. Prof. Chisolm's success in his specialty is largely dependent upon the fact, that for several years he practised medicine in all its branches; then restricted himself to surgery, in which he had a very extended field; and finally, by eliminating all extraneous work, reached his specialty of eye and ear diseases, which,

for the past ten years, he has exclusively practised. The success which he has secured in this branch of surgery is indicated in a recent paper on Tobacco Amaurosis—his experience being drawn from the treatment of 13,743 individuals suffering from eye diseases among his patients during the past eight years of his practice in Baltimore.

In 1870, Professor Chisolm organized the Baltimore Eye and Ear Institute, of which he is the surgeon in charge. To this Institution was attached a free hospital for the surgical treatment of eye disease. Both the State of Maryland and the city of Baltimore made liberal annual appropriations for this Institution. The published reports which we get from time to time show a large amount of work accomplished in this hospital.

One year since, finding his accommodations for the charity cases too much restricted, Professor Chisolm induced the Presbyterians of Baltimore, a very wealthy denomination, to establish a Presbyterian Eye and Ear Charity Hospital, to which all the poor of the city of Baltimore, suffering from diseases of the eye and ear, could procure treatment. The plan proved acceptable to the churches, and an organization was effected which resulted in the opening of the hospital on December 3d, 1877. This hospital is Presbyterian as to its support only. Its charity is Catholic, inasmuch as it invites any poor person suffering from eye or ear diseases to secure treatment at the hands of its medical staff. The number of daily applicants for the year 1878, aggregated 13,935, an evidence of the marked success of this church enterprise, which is as yet in its infancy, having just completed the first year of its existence. This Presbyterian Eye and Ear Charity Hospital, with Dr. Chisolm as its surgeon in charge, is the Eye Hospital for the city of Baltimore. For years to come the poor of that city will be indebted to Professor Chisolm for one of their most valuable charities. The students at the University of Maryland are also under obligation for the use of the clinical material which this charity hospital so abundantly furnishes.

ART. II.—**Electricity in its Relations to Medicine and Surgery—Methods of Application and Apparatus.** Lecture III. By A. D. ROCKWELL, A. M., M. D., Member of the American Neurological Association; Electro-Therapeutist to the New York State Woman's Hospital, etc., New York.

(Continued from page 706, December No., 1878.)

As the generic term—electricity—includes every manifestation of this force, so by the term electrization we understand every form and detail of its application in medicine. The wide attempts to popularize the use of this remedy during the last decade have been eminently successful; but, in great measure, this success has been at the expense of a clear conception of the principles and methods involved. Both the profession and laity are accustomed to speak of "trying electricity," as if its use called for no more knowledge or experience than the manipulation of a child's toy. Patients are recklessly and indiscriminately recommended to purchase batteries, and have the applications made by themselves, their friends, or servants. Benefit may, indeed, sometimes follow these blind procedures, but, as a rule, injury of a three-fold character results. In the first place, we note an injury of a negative character, so-called, but none the less real, in that the patient receives no benefit from an agent which, rightly used, might have done good. Again, the physician injures himself in failing to help the patient; and lastly, he injures the profession by making it appear that the medical use of electricity is a simple and trifling thing, and therefore the peculiar province of ignorance and charlatanism. It is not too much to say that skill and the requisite knowledge in this special branch, comes only by close observation, hard study and much experience. As we have said elsewhere, the duty of the profession in regard to this matter is very clear. They should familiarize themselves with electro-therapeutics, so as to make the applications themselves, or through trained assistants, or they should refer the matter to those who are masters of the subject. In case neither of these courses is practicable, they should, as a rule, not attempt to have electricity used at all, or should confine them-

selves mainly to its use as a palliative, and with the understanding that they are submitting to a necessary evil.

The main methods of electrization are four in number—viz., 1st, Localized Faradization; 2d, Localized Galvanization; 3d, General Faradization; 4th, Central Galvanization. These are, of course, subject to infinite variation in the practical details of their application; but a general description of each may prove sufficient as the foundation-stones on which to build experience.

Localized Faradization.—The art of limiting the excitation of the faradic current to certain organs and tissues, is, in the main, due to Duchenne. He called attention to the fact that electricity could be localized *under* the skin, if moist electrodes were firmly pressed upon the skin. He was led to this observation by the very familiar phenomena that follow the application of the dry electrode or hand to the surface of the body—viz., a crackling sound, but no sensation and no muscular contraction. This is due to the very slight conductivity of the skin. Through moisture, however, its conductivity is increased, and he observed that when wet electrodes were applied, the same strength of current excited contractions immediately.

This system, simple in its origin and detail as it may seem, has been refined and developed until it has grown into a permanent department of science. To be proficient in its use, demands a certain degree of anatomical and physiological knowledge and manual facility; but its successful employment requires neither the dexterity nor care that is exacted by localized faradization, general faradization and central galvanization, nor the time and patience demanded by the two last named methods.

For these reasons, localized faradization has been generally adopted by the mass of the profession, to the exclusion of the more advanced processes, by which alone we can fully utilize the therapeutic powers of electricity. In carrying out the details of localized faradization, the situation of the motor points should be carefully studied. Ignorance of these points will involve waste of time in searching for them with electrodes in hand, and at the same time add to the an-

noyance of nervous patients. By placing the negative pole over the motor point, and the positive over the belly of the muscle, we obtain immediately the best possible contractions, whether for therapeutic or diagnostic purposes, with the minimum strength of current.

Localized Galvanization, especially when applied for the relief of pain, is a procedure of much greater delicacy than localized faradization. It was introduced to the profession more especially by Remak, in a work "On the Methodical Electrization of Paralyzed Muscles," by virtue of which he became the founder of a school of electro-therapeutics in Germany, as Duchenne had been in France.

The term *stabile* application is employed when both electrodes are kept in a fixed position. The term *labile* application is employed when one or both electrodes are glided over the surface, without, however, causing any interruption of current sufficient to produce appreciable muscular contractions.

When we desire to induce a purely sedative influence, it is often of the greatest importance that the galvanic current should not only be free from any distinct interruption, but that every variation of current influence—such as follows moving the pole along the skin—should be carefully avoided. At other times, however, it is desirable that our applications should be "increasing," by which is meant that the current strength is gradually augmented without removing the electrodes. If the current is thus gradually increased, a much greater power can be borne, than if it is suddenly let on in full force, with the first closure of the circuit. A current which may produce unbearable pain, or, when applied near the nerve-centres, dizziness and faintness, may be borne without discomfort and with positive advantage, if it is gradually increased from the minimum of current strength. Applications to the brain, eye and ear especially, and to the sympathetic spinal cord, urethra, and to all conditions of great irritation wherever seated, should always be thus gradually increased, and in the same way decreased.

With the faradic current, the management of these increasing and decreasing currents is very simple; but to gradually in-

crease the galvanic current, especially if no rheostat is at hand, requires very great care. Most galvanic batteries that are now made, have an arrangement that gradually adds to the number of working elements without interrupting the current; but even with the greatest precision of manipulation, breaks are apt to occur when least expected or desired, and it is far safer, therefore, to be always provided with some form of rheostat.

Labile, or stabile interrupted currents, are generally preferred for the galvanization of muscles, while for the galvanization of the head, spinal cord, sympathetic, nerve-tracts and plexuses—stabile continuous currents—either uniform or increasing, are, as a rule, indicated. In addition to their power to produce muscular contractions, labile or stabile interrupted currents cause more marked physical and mechanical effects, while stabile continuous currents, whether uniform or increasing, produce the stronger, electrolytic and catalytic action. In applying the galvanic current to the brain, it is well to remember that there is less tendency to dizziness if the negative pole is applied first, and the circuit closed and opened with the positive.

There are many special effects of localized electrization, as of general faradization and central galvanization, but the leading and general results of all the methods is improvement in nutrition.

Localized electrization of poorly nourished and atrophied muscles, develops size and increases strength; localized electrization of any organ, such as the uterus, the nutrition of which has become impaired and its size diminished, tends to develop it and to increase its functional activity. In localized electrization, these results are, of course, of a local nature; yet, owing to the fact that absolute localization is impossible, we not unfrequently observe effects extending far beyond the parts actually enclosed in the circuit.

By reflex action, also, we obtain remote effects, which are either desirable or undesirable, according to the demands of the case in hand. Galvanization of the spine, and even of the extremities, may, in certain irritable conditions, excite the characteristic metallic taste. Galvanization, and even

faradization of remote and limited areas, sometimes relieves pain, induces sleep, and increases the menstrual and other discharges through reflex influences alone.

The effects of all local, as well as general applications, vary according to the length of the seances. The effect of the faradic current, when first applied by means of moistened electrodes, is to cause a tingling sensation, more noticeable at the negative than at the positive pole. In a short time, the sensation becomes less and less marked, and a sort of anæsthesia is produced, enabling the patient to endure an increasing strength of current with no discomfort.

The galvanic current, unless it be quite strong, or directed over a motor point, at first usually causes little, if any, sensation. In a short time, however, a slight, burning sensation is experienced, rather more keenly felt at the negative pole. This sensation rapidly increases in acuteness, until it may become absolutely unendurable; for, unlike the faradic current, the galvanic has not the same tendency to anæsthetic effects. There are two causes which probably account for this increase of pain as well as of in the readiness of muscular contractions. The first, is the fact, that the conductivity of the skin becomes increased, not only through the moisture from the electrodes, but also through the increased activity of the circulation in the skin under the electrodes; and the second is the increased nerve sensitiveness resulting from the stimulating effects of the current.

General Faradization.—In the administration of general faradization, we employ, as is evident from its nomenclature, the faradic current alone. Its object is to bring the external portions of the body from the head to the feet, and, as far as possible, the internal tissues and organs also, under the influence of the current. The galvanic current may be used in this way as well; but it is so rarely indicated, that I have not included it in the enumeration of the methods of application.

Its chemical and reflex influences are so potent that, excepting in cases of rare and remarkable insusceptibility to influences of all kinds, its effects would prove harmful rather than beneficial. As illustrative of its occasional value, how-

ever, administered generally, I may cite a case of disease of the supra-renal capsule (Addison's disease) in which there was a most extraordinary absence of both electro-muscular sensibility and contractility. The faradic current was given with a strength far beyond all former experience, producing but little effect, either primary or secondary. The galvanic current, however, proved unexpectedly efficacious. The secretory functions had, to a great degree, ceased their activity, and as a result, the skin was dry and shrivelled, the throat parched, and even the finger nails were so devoid of moisture, as to break on any attempt to bend them. The result of treatment was to so excite the processes of secretion, as to alleviate every symptom; even the nails became perfectly pliant, the bronze color of the skin receded and became several shades lighter, while the strength and power of endurance increased in due proportion. The case was presented before several of our medical societies, and examined by many of the profession—among others by Drs. Austin Flint and Post. By the former, this case was alluded to in a subsequent edition of his work on the *Practice of Medicine*. It assumes importance, not because of any absolute curative powers in Addison's disease, but simply as one of the most perfect illustrations of the remarkable effects that may follow general applications of electricity. After two years of comparative strength and comfort, the man died, and the *post-mortem* revealed the characteristic changes in the capsule of the kidney. The specimen was presented for examination to the New York Pathological Association, and is now in my possession.

It is very seldom that a case is seen where general electrization is indicated, that the faradic current is not sufficiently powerful, either directly or reflexly, to excite the physiological activities, and in the treatment of thousands of cases of chronic diseases, both functional and organic. I have not had occasion in much above a dozen instances to use the galvanic current in this general way. The results of such applications, in many of these forlorn cases, were, however, so powerfully restorative, and, at the same time, are so little appreciated, that this allusion may, perhaps, bring forth fruit in the experience of others.

Now, in order to bring the whole body thoroughly under the influence of the faradic current, the feet of the patient should be placed upon a copper plate, to which the negative pole is attached. The soles of the feet are not at all sensitive to the current, but if the patient is especially nervous or susceptible, the feeling of constriction that is experienced in the ankles as the current passes, and the occasional contraction of the flexors and extensors may become disagreeable and even hurtful. In this case, it will be better to apply the negative pole, by means of a broad, soft sponge near the coccyx.

The positive electrode may be either natural or artificial. The hand is the natural electrode, and those who are able to bear the requisite strength of current through their own person, and are willing to subject themselves to the fatigue which follows its frequent use in this way, will find it unrivalled by any other form. It is not absolutely necessary that the hand be used, but it can be readily understood that no artificial electrode that human skill can devise, can equal the hand in its flexibility, and readiness and completeness of its adaptation, to every inequality of surface. In all applications to the head, eyes and face, and in the more general treatment of acutely susceptible patients, and especially hysterical women, I freely confess that in numberless ways I should fail to obtain the same results by any form of artificial electrode. Ordinarily, however, when the applications come to be made along the course of the spine, over the abdomen and lower limbs, the strength of current necessary is too powerful to be passed through the arms of any operator, and fortunately, artificial electrodes answer here as good a purpose as the hand.

In submitting a patient to general faradization, the operation should be with some regard to order. In the first place, the hair being throughly wet, the hand is passed with firm pressure over the entire surface of the head. In treating the forehead, which is far more sensitive to the current than any other portion of the body, the operator should first press his moistened hand firmly over the part, and then make the connection with his other hand on the sponge of the positive

pole. The strength of current, when applied to sensitive parts of the body, can be sufficiently regulated by increasing or decreasing the grasp of the positive pole held by the right hand.

An application of the faradic current to the head in many forms of neuralgia, nervous headache and insomnia, if properly given, is capable of affording instant and most grateful relief. There are very few, however, who administer it with any degree of precision and skill, and as a consequence, we witness aggravation instead of relief of pain. The slightest concentration of current in such situations as the forehead, is capable of exciting pain even in the normal condition, while a proper diffusion over a broad surface, with equal and gentle pressure, affords a sensation as agreeable as it is curative.

The back part of the head and upper portion of the spine (cilio-spinal centre) will usually bear powerful applications; and it is an interesting and important fact that applications to this centre will produce far greater tonic effects than when the pole is applied to any one other portion of the body. Care should be taken to avoid all bony prominences, since slight currents in these regions give great pain. Hence, over the scapula, clavicle, sternum, crest of the ilium, tibia, etc., care should be exercised in the moderation of the current. Let the first applications be tentative. Experience will soon teach that there is no remedy, to the effects of which, there is such a varying degree of susceptibility as to this. A glance will not suffice, and frequently careful examination will fail to give information as to the proper strength and thoroughness of the treatment that should be first attempted. Not until the patient is submitted to a careful electrical test, can we be sure that what we might consider very gentle treatment, will not be too severe for the case in hand.

As in the administration of localized galvanization, the current may be uniform or increasing. When the electrode is on the head, cilio-spinal centre, epigastric region, or pressed firmly down on the various motor points and nerve plexuses, the current should be increasing. To make the applications successful, not only in the ultimate good that comes, but also

in that the patient experiences no subsequent weariness, soreness of muscles, or vague but distressing nervous feelings, requires far more care and experience than is generally supposed. On the part of the operator is demanded a certain degree of mechanical dexterity, entire familiarity with the instrument required, a complete knowledge of electro-therapeutical anatomy, a personal acquaintance with the sensations and behavior of all portions of the body under the different electrical currents, and close and patient study of the diseases and morbid conditions in which they are indicated.

General faradization is, to me, absolutely indispensable in the practice of electro-therapeutics. Beginning with the method twelve years ago, and at first confining my manipulations in electricity almost exclusively to it, I have not to this day seen cause to abandon its practice. New and valuable methods of application have been proposed and adopted. Through a better knowledge of its subtile and far-reaching influences, and of the laws which regulate its action, the constant current is indicated over a wider range of neurotic affections, and alone occupies the field of electro-surgery; and yet if I might roughly approximate the relative frequency with which I even now make use of general faradization in its most thorough form, and all other processes of faradization and galvanization, I should say that fully one-third of the cases indicating the use of electricity are subjected to the first named method. There is no one tonic influence in medicine comparable with it in power; there is none to which can be accorded such a wide range of application, and I can only account for its neglect on the part of those who profess proficiency in electro-therapeutics, because of the time and labor requisite for its successful utilization, and the unwillingness of the physician to subject himself or his patient to trouble. Time certainly is required, and tiresome labor; and so far am I from loving labor for its own sake, that were it not that I know from long experience, the impossibility of satisfactorily supplying its place by other methods, I should be among the last to advocate its importance. Althaus, of London, in his work on "Medical Electricity," speaks with some favor of general faradization; but in his estimate of the

rationale of its operation, and the effects of the current on the operator—and especially when he would practically discard the method, because he conceives it to be inferior to the application of the constant current for a few moments, falls into the natural error of one whose opinion is based on theory alone. It is evident that Althaus has never made even an approach to a satisfactory use of the method.

Central Galvanization.—By central galvanization, we understand that method of treatment, by which the whole central nervous system—brain, sympathetic nerves and spinal cord—are brought under the influence of the galvanic current. To accomplish this, one pole, usually the negative, is placed over the solar plexus, while the other is firmly pressed on the top of the head, and gradually passed over the occiput, along the inner border of the sterno-cleido-mastoid muscle, from the mastoid fossa to the sternum, and from the cilio-spinal centre down the entire length of the spine. For this method, which we first introduced and described a number of years since, is claimed a distinct and important position. The different applications to the head and neck, which have been variously used since the time of Remak, are simply forms of localized electrization; but in central galvanization, as is observed, the poles are so placed that the whole central nervous system is brought under the influence of one pole—usually the positive—without disturbing the other.

One reason that has been offered for rejecting central galvanization, lies in the fear that its relations to electro-physiological laws cannot be fully explained. It is asserted that a remedy, in order to be indicated in any special disease, must have certain well known physiological activities that directly meet or counteract the observed pathological conditions. To a certain extent this is true. For the relief of a dry skin and high pulse, we resort to diaphoretics and arterial sedatives. To reduce the volume of blood in the brain, we have bromide of potassium, and so on; but on the other hand, can any one tell us minutely and satisfactorily why it is that quinine has a controlling influence over the manifestations of malarial poison? Why iodide of potassium tends to eradicate the syphilitic poison? Or, why opium causes

sleep? And yet quinine is indicated in intermittent fever; iodide of potassium in syphilis, and opium in insomnia. That we cannot accurately localize the action of the current in limited areas of the brain, has already been stated; but that external applications of the galvanic current penetrate directly to, and appreciably affect it, is thoroughly established, and the sedative and tonic effects that follow, are well known to every one who has intelligently and thoroughly tested the method.

Central galvanization demands a far greater familiarity with the physics of the constant current, and with both functional and structural derangements of the central nervous system, than is possessed by many who essay its use. If there is any one therapeutical process in the whole range of practical medicine that more than another defeats its own legitimate ends through careless and ill-directed or ignorant applications, it is this. As a matter of experiment, we submit a person in robust health, and with no marked nervous susceptibility, to central galvanization. If the current is gradually increased and as gradually decreased, without interruptions, few if any unpleasant sensations are perceived, although ten, fifteen, or even twenty ordinary cells be included in the circuit. The metallic taste is decided, the head experiences a sensation of fullness, and if the experiment be prolonged, or the electrodes small, itching and heat will be experienced at either pole, and on the head (the seat of the anode) and slight pain, of a dull aching character, may possibly be felt. A second person, of increased nervous susceptibility, will experience an exaggeration of all these phenomena, and subsequently may suffer from severe headache. Because of the symmetrical influence which the galvanic current, by the method of central galvanization, exerts on the brain, little if any dizziness is perceived, by even the most sensitive patients; if, however, the current be passed transversely through the head, the so-called falsification of the muscular sense that results through an unsymmetrical stimulation (one pole affecting the right, and the other the left hemisphere) is the occasion of immediate and intense vertigo. In thus transversely galvanizing the brain, the hemispheres

are differently influenced, and the result is a disturbance of the equilibrium. This dizziness, as a rule, passes off immediately on the removal of the electrodes, in healthful conditions, and is attended by no harmful results. In certain pathological conditions, however, and signally so when such conditions are associated with those peculiarly impressible nervous organizations that are so familiar, transverse galvanization of the brain is a highly culpable procedure. Let it be clearly understood, then, that, in most cases, this method should be avoided.

I might cite not a few suggestive cases, and not alone in my own experience, illustrative of the importance of this law; but it will, perhaps, suffice if I simply indicate a few guiding propositions.

And first, there is a certain class of patients, that I have just alluded to as being peculiarly impressible, who will in no degree be benefited by passing the current transversely through the brain; on the contrary, if there is mental or physical derangement from any cause, such application inevitably aggravates the existing disturbance. In many instances, there is no outward indication of any such susceptibility, and very frequently the most careful examination will fail to elicit a suspicion of any unusual relation of the nervous system to electrical stimulation. It is only when you come to subject them to the test of actual treatment that idiosyncrasies are manifested, that would not be distinctly revealed by any other method. In two exceptional cases, for example, of which I have record, a current of comparatively feeble tension caused an astonishing excitation of all the nerves of special sense. Sight, smell, taste and hearing were all perverted and exalted; and that these evidences of excitation were not the result of fancy, I thoroughly satisfied myself by unerring tests. In these cases, as in a number of others that enter as factors into the experience that guides these observations, the after effects were only less unpleasant than the primary, and were disagreeably persistent. Now, observe the effects of applications by the method of central galvanization in the same patients. The same tension of current caused a decided metallic taste (but no vertigo and no ring-

ing in the ears), with a slight feeling of fullness about the head—and a persistence in this form of treatment resulted in grateful relief. In consideration, therefore, of these facts, we should ever be watchful for these susceptible cases; and to avoid errors of judgment that might prove unfortunate, we should not presume even on the most extended experience, but should in the beginning pursue a tentative course.

In the second place, we have in cerebral effusion and softening, and especially in cerebral congestion, conditions that call for care in any method of galvanizing the nerve centres. In old apoplectic cases, transverse galvanization of the head has often been used with no unpleasant results; but this certainly is no reason why it should be thus used. There can be no doubt that it might in many instances prove exceedingly hazardous, and I have even seen unmistakable evidence of the ill-effects (in producing dizziness and nausea) of an injudicious application of localized faradization in the neighborhood of the base of the brain and in the mastoid fossa. It is in the consideration of the symptoms of cerebral congestion, however, that we see most clearly the importance of rightly selecting our methods of electrical treatment. To give any direction to the current, excepting a longitudinal one (by which I mean from the summit of the head downward, or from forehead to occiput) is, I believe, not only unphysiological, but, as well, contrary to the teachings of extended and carefully recorded experience.

In this connection, and especially with reference to central galvanization, an exceedingly important practical point arises concerning polar *influence* and *current direction*. Is the position of the poles, or the direction of the current, the more important factor in the production of therapeutical and purely physiological effects? The French school, and notably Legros and Onimus, deny the efficacy of polar influence in exciting physiological phenomena, ascribing them chiefly to current direction. They ascribe anelectrotonic effects to electrolytic action, and to the induction of currents of polarization.

The contraction laws of Pflüger (already given in Electro-Physiology) render it quite possible that in the electrical

stimulation of a given nerve piece, the polar influence has more to do with the resultant physiological effects than the direction of the current; and, according to this theory, the relative position of the poles in central galvanization (anode above—cathode below) would seem, on physiological grounds alone, to be chiefly indicated for the relief of symptoms of central origin. Experience, at all events, strongly confirms its propriety. It is very certain that in many conditions, and especially in true neuralgia and spinal irritation, therapeutic effects vary according to the position of the poles. In central galvanization also, few facts are better established in my mind, than that certain conditions, such as cerebral congestion and forms of hysteria, may be injured rather than benefited by what are termed ascending currents; but whether the ill effects are due to current direction or polar action, I am not prepared to say.

The effects of electrization may be divided into *general* and *special*. The *general* effect is that of a tonic, with a tendency either stimulating or sedative, according to the strength, length and method of application, and the character of the morbid condition under treatment. Undoubtedly one of the greatest obstacles that for many years impeded the advance of electro-therapeutics, was the prevailing and incorrect estimate of its position as a remedial agent. It was regarded as more especially a stimulant, and indicated in those conditions calling for an excitant; hence paralysis was the disease, *par excellence*, for which it was used. Valuable as this effect is, it is far less important than the sedative and nutritive effects, which are general or local, according as the applications are general or local. The same principle holds here as with other remedial agencies. The sunlight and cold water bathing impart their full tonic and restorative powers only when the whole body is submitted to their influences; and it is quite certain, that were it possible to localize the effects of any of our internal tonics to a single limb, we should by such method fail to obtain their general therapeutical action. General faradization and central galvanization (the *rationale* of which were considered in our remarks on Electro-Physiology) are manifestly the methods by which we most successfully elicit constitutional tonic effects.

The special effects of electrization necessarily differ with the varying degrees of susceptibility among patients. The usual primary effects of the general and central method, is a refreshed and moderately exhilarated feeling which may last some hours. If there are vague pains, with nervous excitement, the tendency of the treatment is to relieve and soothe. Unpleasant secondary or reactive effects are not generally experienced. In a certain proportion of cases, however, the patient may experience some soreness in the muscles of the upper and lower extremities, and an indefinable nervousness, which soon gives place to a feeling of increased strength and steadiness of nerve. On the temperature, the effect of general faradization is to lower it when it is abnormally high. It acts also as an equalizer, and patients who suffer from cold feet and creeping chills over the body, become sensible of a feeling of warmth even in the midst of a seance. General faradization has very little influence on the normal pulse, but its power to reduce the frequency of the beats when it is abnormally high in conditions of nervous exhaustion, is distinctly marked. In the treatment of such cases, I have in a seance of five minutes frequently noted a fall in the pulse beat, ranging from ten to thirty to the minute. At the same time, the heart's action becomes more regular and stronger.

An almost invariable accompaniment of general faradization and central galvanization, is an improvement in sleep; and as insomnia, more or less marked, is frequently associated with those neurasthenic conditions for which electricity is indicated, this improvement is indicative of the further benefit that will follow. A better appetite and increased power of digestion, although not observed so early in the treatment, is a pretty constant symptom; while through the direct mechanical effects of the current on the intestines, and its influence over the secretory processes, more or less temporary and permanent relief is afforded in constipation. The influence of general faradization over nutrition, is, perhaps, in no way more marked, than in an occasional increase in the size and weight of the body, so rapid and perceptible to the eye, that it need not be confirmed by reference to the scales. Finally, through tendencies, both direct and indirect, to improve nu-

trition, we observe increased disposition and capacity for intellectual and physical labor.

Apparatus for Electro-Therapeutics.—Preliminary to some practical observations on medical batteries, a few words may be said concerning "electro-motive force" and "constancy," topics which, strictly speaking, should have been discussed under Electro-Physics. The strength of current proceeding from any cell, or series of cells, depends upon a cause not very clearly understood, which we term electro-motive force, and this force depends upon the metals and liquid or liquids composing the battery. The Bunsen element, consisting of zinc and carbon, immersed respectively in solutions of dilute sulphuric and nitric acid, have an electro-motive force that may be designated by the numeral 2. The ordinary Daniell element, consisting of zinc and copper immersed in solutions of sulphuric acid and sulphate of copper, yield an electro-motive force represented by 1. These cells, with their various modifications, yield a true, constant current, in that they may be used for hours with but little appreciable decrease in current strength. It is not so easy to estimate the motive force of cells composed of a single fluid, since the strength of current proceeding from them decreases so rapidly after a comparatively short usage. Zinc and carbon, in a solution of sulphuric acid and bichromate of potash, yield a force represented by 1.4, while the Smee cell, made up of zinc and platinum, in a solution of dilute sulphuric acid, gives a strength of .8.

The great internal resistence offered by the double fluid batteries very much decreases their real working power, and they are not, therefore, as suitable for the purposes of electrolysis as the single fluid cells. It must not be forgotten, however, that the essential quality of a galvanic battery, for purely medical purposes, is constancy, and that this quality is most perfect in the cells with two fluids. The reason for this lies in the fact that single fluid cells have no adequate arrangement for depolarization. To a certain extent, the rough surfaces of the carbon and platinum, in their respective combinations, prevent polarization (a phenomenon due to the evolution of hydrogen and oxygen in the cell), but in an imperfect

manner only. Gradually the oxygen collects at the positive, and the hydrogen at the negative pole; a counter current is generated, and, in time, acquires a strength sufficient to completely neutralize the original current. In the double fluid cells, however, a depolarizing substance, such as will readily combine with the hydrogen and retard its deposition on the negative metal, is interposed between the two elements.

The substances that are mainly used in the different constant batteries are sulphate of copper, bichromate of potassium, peroxide of manganese, chloride of silver and nitric acid. Constant batteries are, however, usually large and heavy, and suitable only for the office or hospital; and as practitioners, as a rule, desire portable apparatus, the majority of those manufactured are of a single fluid only, such as are illustrated in most of the accompanying cuts.

Some authorities, while admitting the superiorty of the single fluid cell for electrolytic purposes, go so far as to declare it essentially unfit for medical applications. This assertion I must pronounce a very great exaggeration. In conditions calling for continuous applications of great length, the double cell apparatus, such as Daniell's, or one of its various modifications, is undoubtedly to be preferred; but in the majority of ordinary applications, the single fluid cell, if kept in good order, answers very well. Applications of from five to fifteen minutes are, as a rule, sufficient, and for this length of time the current strength does not greatly decrease. The specialist, however, who is using his batteries through a considerable portion of the day, must have at his command an apparatus which yields a truly constant current, and for him the double fluid cell is a necessity. Electro-motive force, constancy and portability, then, are the three points to be considered in the selection of a galvanic battery. It is to be regretted that it is so difficult to combine in a galvanic apparatus constancy with portability. Gaiffe's chloride of silver battery (Fig. 1), is one of the most perfect in this respect, but its high initial cost is one disadvantage.

Fig. 1.

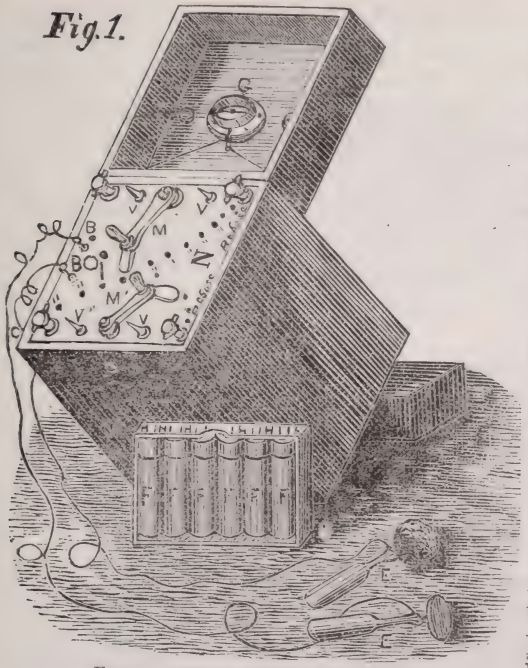


FIG. 1. Gaiffes Chlorid'e of Silver Battery.

In this battery, zinc and silver are the elements; chloride of silver being the depolarizing agent through which the cells acquire their constancy. While the first cost is high, the working is sufficiently cheap, since all of the reduced silver is recovered. A galvanometer (G) is placed in the lid. The cells (F F) are arranged in rows in trays. The weight of this apparatus of 60 cell is but 15 pounds.

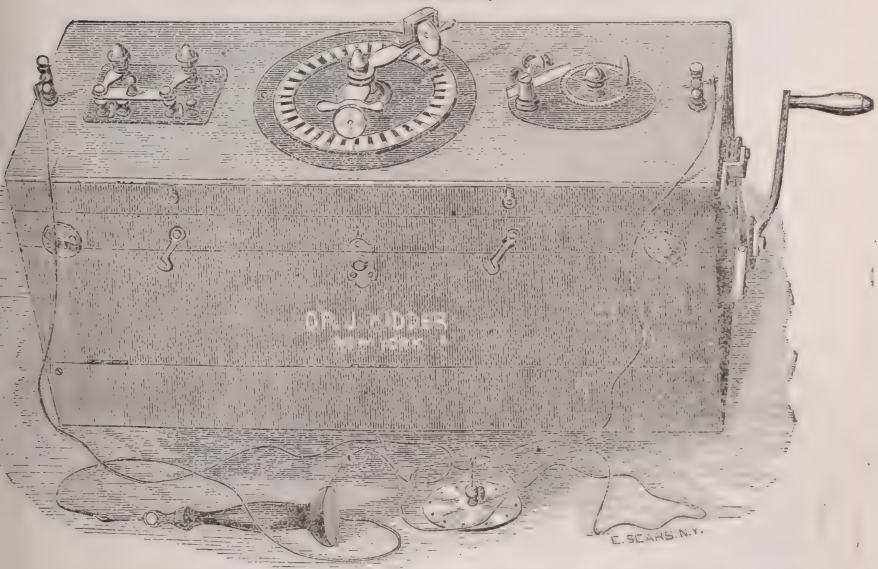


FIG. 2. Thirty-six large zinc carbon cell galvanic battery, with circular switch, reverser and interrupter, for office or hospital use. (Kidder.)

I have used this apparatus (Fig. 2), in my office for some six years. With occasional repairs, it has, on the whole, answered my purpose as well, if not better, than any other single arrangement. By means of the crank on the side, the cells containing the fluid are lifted to the elements and lowered at pleasure. By means of the circular switch in the centre, any number of cells, at the beginning, middle or end of the series, may be included in the circuit, either with or without interrupting the current.

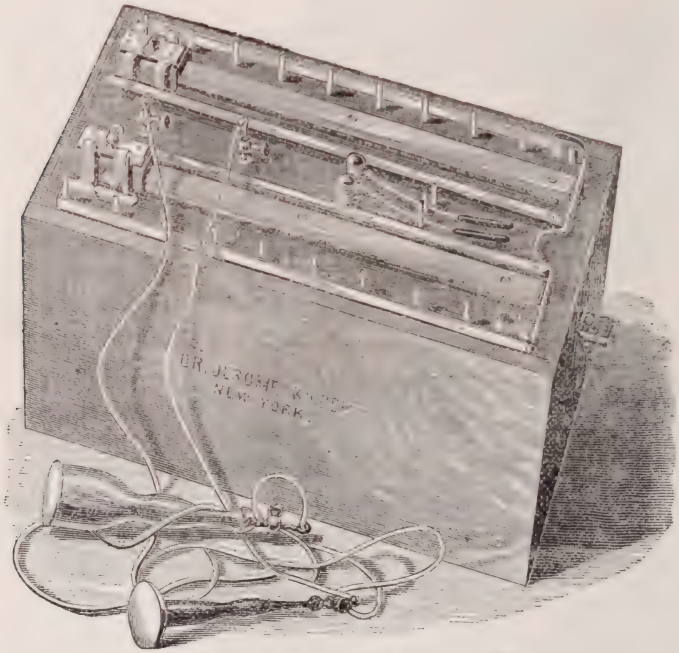


FIG. 3. Eighteen cell zinc carbon battery. (Kidder.)

This battery (Fig. 3), is readily portable, the cells being considerably smaller than those in the preceding illustration. By the slides on the left, the number of elements included in the circuit may be increased without interrupting the current. By locking back one of the springs, the current is interrupted when the slide is moved. By moving the levers

on the right of the apparatus, the current can be thrown rapidly and alternatively in opposite directions.

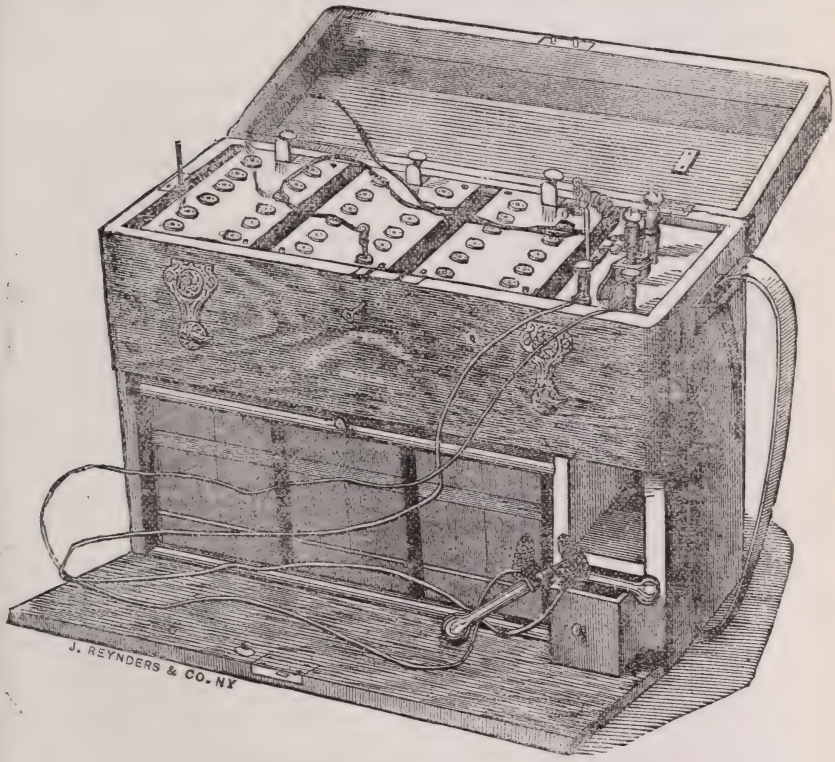


FIG. 4. Thirty cell zinc carbon battery. (Fleming & Talbot.)

The cells of this apparatus (Fig. 4), are so arranged in sections of ten, that any one section, or any number of sections, can be used at a time, every section being a complete battery in itself. The sections are put into action by raising the rods at the back. The short conducting cords of the battery are for the purpose of bringing the cells into circuit, one end of each of them being attached to the posts marked P and N. The other end of the N cord is inserted in the hole marked O, opposite it, and the other end of the P cords is inserted in the holes of the number of cells desired to be brought into action. As it is often necessary to increase the intensity of the current during applications, the P cord is

made double, so that while one of its pins is inserted in a certain number, the other pin may be inserted in a higher number, thus increasing the current strength gradually without shock.

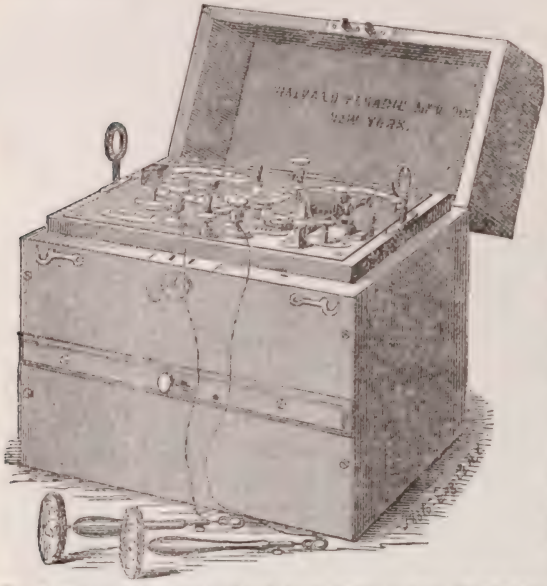


Fig. 5. Twenty-four zinc carbon battery. (Galvano Faradic Mf'g Co)

This is called the Bartlett galvanic battery (Fig 5), and is a very convenient apparatus. It has connected with it a dydrostat, which quite successfully prevents the spilling of the solution during transportation. The accessories, such as current selectors, commutator, rheotome, &c., are all attached. The bottom of the box is a movable tray, in which the glass or hard rubber cells are placed. This movable tray is controlled by two hinged rods, which are fastened to it, and these by two lifting rings at the end of the rubber table. These rings being screwed tightly down, hold the cells firmly against the hydrostat, or being loosened, allow the hydrostat to be removed from the front of the centre of the box; they also serve as handles to lift the tray of cells.

The cells of this battery (Fig. 6), are called the Siemens & Halske, a modification of Daniell's. This cell has a porous diaphragm of clay biscuit, and a packing of papier maché around the zinc. This acts not only as a sponge to hold the solution, thus preventing any spilling; but by increasing the internal resistence, diminishes the quantity of electricity set free. Connected with this apparatus are two current selectors, for bringing any required number of cells into the cir-

cuit; a rheotome, for giving slow or fast interruptions to the

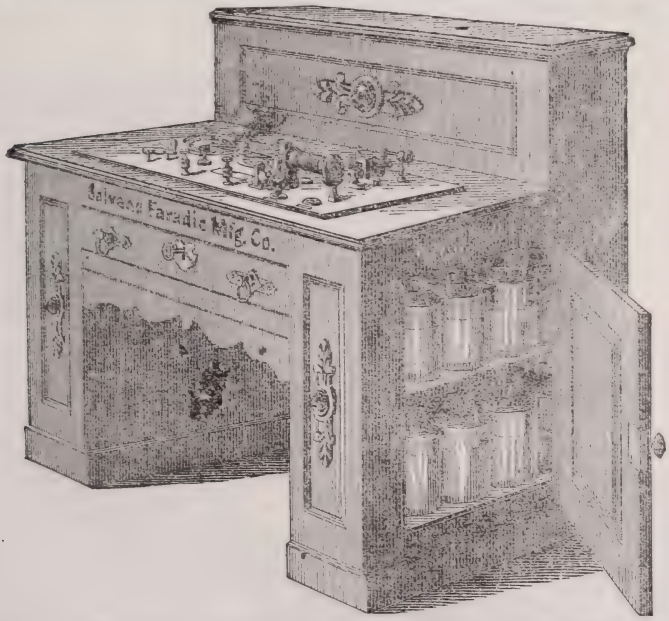


Fig. 6. Cabinet battery for office or hospital use. (Galvano Faradic Mf'g Co.)

galvanic current; a rheostat, bringing into the circuit resistances varying from 100 to 16,000 units; the commutator for changing the polarity of the current; the galvanoscope, showing when the cells are giving a current, and a faradic coil, giving electro-magnetic currents. The cells being double, the current proceeding from them is, of course, constant.

This apparatus (Fig. 7), is run by a Smee cell. It furnishes induction currents from four different coils of insulated wire, each coil consisting of a different length, thickness and number of convolutions; and these coils are so arranged as to yield a current from any single coil, or from two or more consecutive coils in the combination, thus making in all ten variations in the qualities of the induced current. The principal variations, however, number but four, viz., AB, AC, AD and AE. The conductors are connected with the two front metallic posts, as shown in the figure, and the current from any special coil, or from any combination of coils desired, is

elected from the metallic posts A, B, C, D and E, by means of the two switches 3–4, which are insulated from each other at their common pivotal end. The switch 5 (resting on the

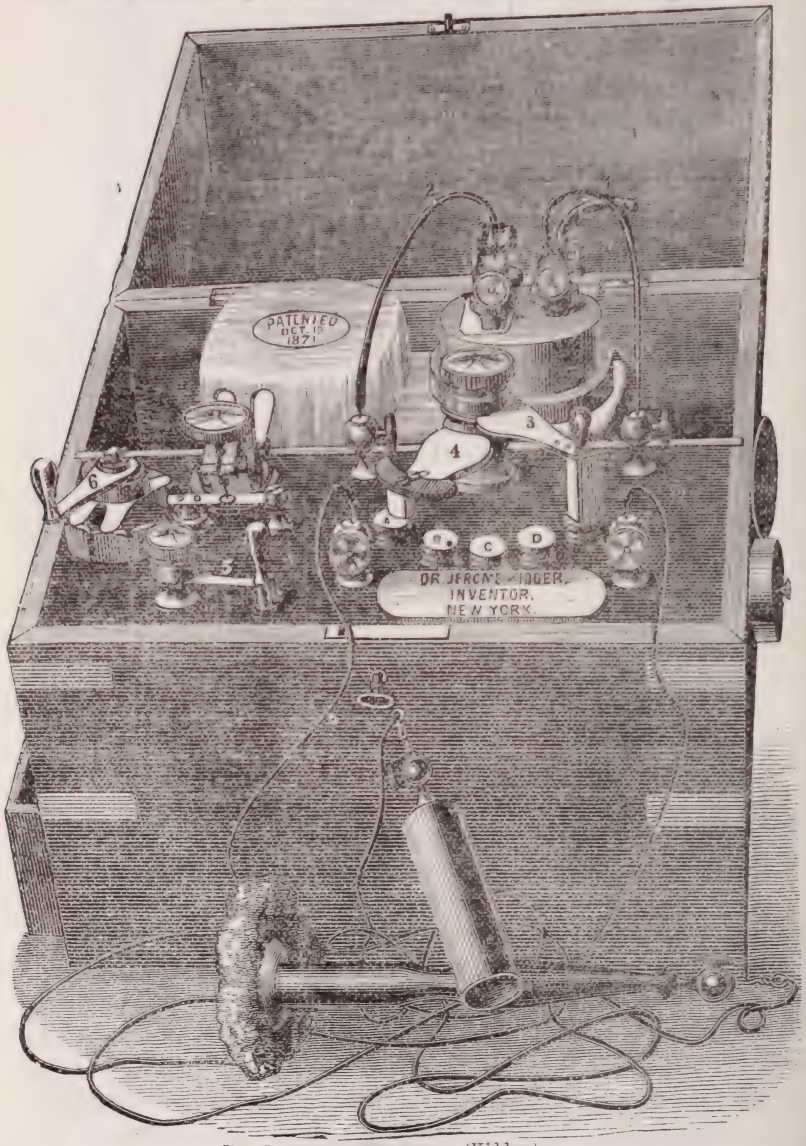


FIG. 7. Faradic Apparatus. (Kidder.)

front post), gives the stronger; and resting on the back post,

the weaker degree of power, and in each case the power is further varied to any desirable degree by the tubal plunge, the extremity of which is shown at the end of the box on the right. The switch 6 will reverse the direction of any current in use. The spring interrupter is of tempered steel, on which is riveted a platinum plate, to which the current is carried through a platinum pointed screw; underneath the hammer of the spring is a screw, forming a part of the electro-magnet, which screw can be turned up or down, to be out of the way of the hammer when vibrating, and yet be near enough to secure good and regular vibrations.

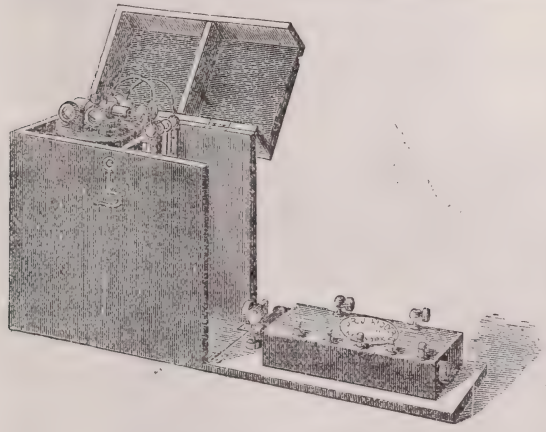


FIG 8. Small Faradic. (Kidder.)

This (Fig 8), is a very compact and convenient apparatus. The helix stands upright in one end of the case, where it is hinged. When the helix is lowered to the horizontal position, as seen in the figure, it becomes connected with the cell in the adjoining compartment, by means of springs underneath the hinges. It is run by a Smee battery.

This apparatus (Fig. 9), is sufficiently small to be carried in the overcoat pocket, and in some respects is an improvement on the

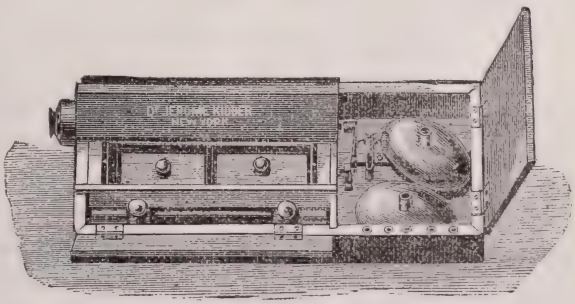


FIG. 9. Modification of Gaiffe's Faradic Apparatus. (Kidder.)

French machine. The instrument operates by means of a solution of bisulphate of mercury acting on zinc and carbon, and is, therefore, so far as relates to the motive power, similar to Gaiffe's celebrated machine; but the helix and rheotome are peculiar to the manufacturer's larger batteries. The merit of this apparatus consists in its ingenious combination of old and new ideas, resulting in the construction of an instrument *which, for its size*, yields a current unsurpassed in strength and variation of quality.

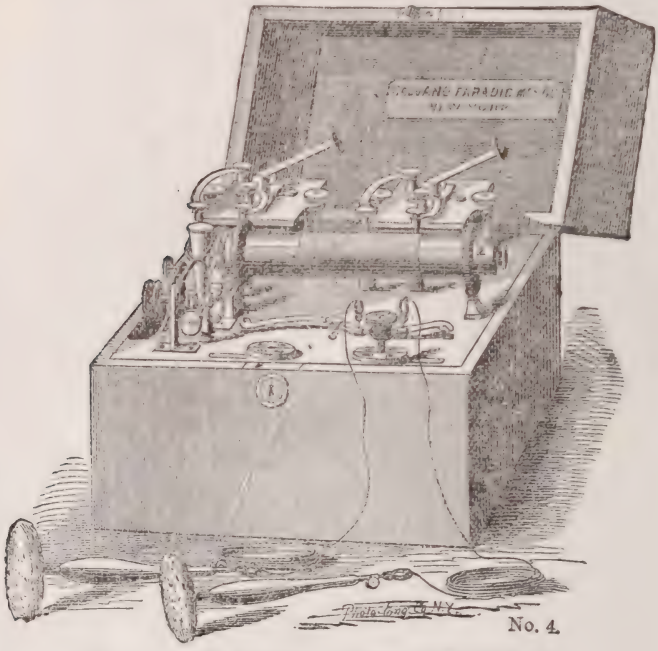


FIG. 10. Faradic Apparatus. (Galvano Faradic Mf'g Co)

This apparatus (Fig. 10), has two cells, which may be united when greater power is desired, or in case one becomes broken or exhausted, the other is in reserve. The elements are zinc and carbon immersed in a solution of sulphuric acid and bichromate of potash. It has the elastic fork, used for giving slow and distinct shocks, as well as quick vibrations at the will of the operator. It has also the usual rheotome attachment by which the current is still further modified.

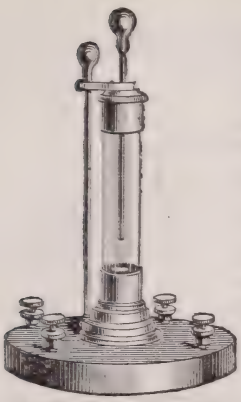
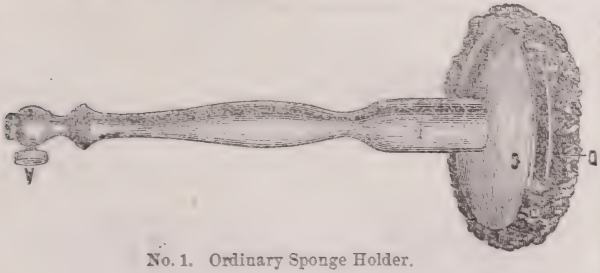


FIG 11 Hydro-Rheostat.

This rheostat (Fig. 11) consists simply of a column of water, interposed in the circuit, and so arranged that the distances between the extremities of the metals that close the circuit through the water can be increased or diminished at pleasure. This is a very useful contrivance, and although by no means so precise as the more complicated stopper rheostats, is yet sufficient for many, even the more delicate purposes of electro-therapeutics.

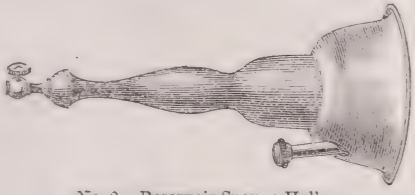
Electrodes.—The following illustrate a variety of electrodes that are useful in practice (Kidder):



No. 1. Ordinary Sponge Holder.

To fix the sponge on to this holder, unscrew the handle B, by turning the handle itself. Place the sponge on the outside surface of the lower plate D, to bring the edges of the sponge over the edges of the plate; clasp it with the handle C, and hold all together by screwing on the handle B.

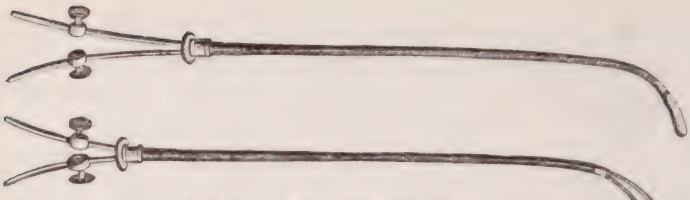
For containing warm water, with clasp holding the sponge.



No. 2. Reservoir Sponge Hollow.

No. 3. Rectal Electrode.

No. 4. Urethral Electrode, with Insulated Tip.



No. 5. Duckerine's Vesical Electrode—Closed and Opened.

No. 6. Uterine Electrode.

No. 7. Concave Tongue Electrode.

No. 8. Ear Electrode.

No. 9. Scourge, with fine tinsel brush for anæsthesia.

No. 10. Brass Ball for [illegible] Faradic

No. 11. This compact case contains the following electrodes: (Galvano-Faradic Mfg. Co.)

1 Controlling Handle,
1 Uniting Handle,
1 Sponge-Covered Foot Plate,
1 No. 1 Carbon Point,
1 No. 2 Carbon Point,
1 Vaginal Electrode,
1 Rectal Electrode,
1 Eye Cup,
1 Sympathetic Nerve Electrode,
3 Olives,
1 Ear Electrode,
1 Tongue-Plate Electrode,
1 Single Nerve Electrode,
1 Cup for Os Uteri,
1 Phrenic Nerve Electrode,
1 Intra-Uterine Eectrode,
1 Scourge Electrode,
1 Bladder Electrode,
2 Metallic Discs,
2 Gilded Steel Needles.

ART. III.—**Nature and Treatment of Fever—Remedies which Check Oxidation Indirectly.** By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

(Continued from page 718 December No., 1878.)

There are a number of agents which check oxidation *indirectly* in one of the three ways which we have heretofore stated. Those which lessen oxidation, indirectly, by dilating the vessels in the heat-losing area, produce perspiration, and at the same time increase the heat loss; hence, they will be considered with the remedies acting in this way.

The most important agents which check oxidation indirectly are—

Digitalis,	Blood-letting,
Aconite,	Chloral,
Veratrum,	Opium.

All of these agents act by virtue of their effect on the circulatory organs, and hence will be considered without dividing them into different classes. It will be observed, however, that their *modus operandi* is in many instances quite different—some lessening both the force and frequency of the heart's action, while others increase its force and diminish its frequency.

Digitalis.—Again, with respect to this drug, we find a wide difference of opinion existing as to its antipyretic value. Bartholow* states that a temporary rise of temperature follows the administration of a lethal dose of digitalis, but this is soon followed by a morbid and sustained reduction. At another place, he says that the results which have followed its administration as an antipyretic in typhus and typhoid fever, do not, in his opinion, justify its use in these maladies, notwithstanding its power to lower the temperature. In some other forms of fever, however, he considers it very serviceable. Dr. H. C. Wood† quotes Coblentz to the effect that in a number of cases, chiefly of pneumonia, there was a fall of temperature about twelve hours after the fall of pulse. There can be no doubt that digitalis has some antipyretic power, and a brief consid-

* *Therapeutics and Mat. Med.*, p. 287.
† *Mat. Med. and Therapeutics*, p. 135.

eration of its physiological properties will enable us to understand under what circumstances it is advisable.

All writers, so far as I know, agree that it lessens the calibre of the blood-vessels, and it is easy to observe this at any time in a curarized frog. There is some difference of opinion as to the influence of digitalis on the amount of urea excreted.

Mégeraud,* from a number of carefully conducted experiments, was very positive that there was a marked diminution, and Hammond and most other writers agree with him in this opinion. On the other hand, Dr. Lauder Brunton's experiments seem to show a very decided increase in the amount excreted.

Its action as a heart tonic is well known, and Wood classes it with the cardiac stimulants. It is uncertain to what its antipyretic properties are due. Ackermann† stated, at one time, that the temperature fell as the blood pressure rose, and rose as the blood pressure fell; but in a subsequent paper‡ he states that the reduction of temperature and of the frequency of the pulse bear no constant relation to each other. He states further, that its action as a febrifuge is obscure and unsettled, and it should be given with caution for fear of producing over-stimulation and consequent failure of the heart's action. Liebermeister§ says it should only be given in those cases of typhoid fever in which there is no considerable degree of cardiac weakness, when the pulse is not very frequent and is still tolerably strong.

It is evident from the above observations, that its field of action is not a large one. It would seem to be especially indicated in kidney troubles, when the secretion of urine is scanty, and dropsical effusions are present. Bartholow says it is very useful in scarlet fever on account of the tendency in this disease to nephritis. It is particularly serviceable, also, in those cases of pneumonia which so frequently follow hæmorrhage from the lungs, as, in addition to its antipyretic action, the contraction of the blood-vessels which it causes is beneficial in these cases.

Gazette Hebdomadaire, Aug. 12, 1870.
†*Berliner Klin. Wochenschr.*, 1872, p. 27.
‡*Volkmann's Klin. Vortrage*, 1872, No. 48.
§*Ziemssen's Cyclopædia*, Vol. I, p. 217.

Liebermeister advises that it be given in substance, when used as an antipyretic, in doses of from 11 to 22 grains in the course of thirty-six hours. Its action is not prompt, there being rarely much fall of temperature under twelve hours. It has been found to act well in combination with quinine, adding to the efficiency of the latter drug.

Liebermeister calls attention to the fact that the indications for its use as an antipyretic are just the reverse of those in heart disease, and a moment's reflection will show the cause of this. An elevated temperature always tends to increase the irritability of the heart; hence, there is more danger of over-stimulation under these circumstances.

Aconite, which has come largely into use of late years, unquestionably produces its antipyretic effect by influencing the circulation. So far as is known, however, it does not diminish the amount of urea excreted; indeed, it is even claimed that the amount is increased under its use. No investigations have been made on the amount of carbonic acid discharged during its administration, so far as I am aware. It is known, furthermore, that it usually produces perspiration (probably due to its relaxing effect); and hence it might appear that it should probably be classed with the agents which increase the heat loss. While acknowledging the force of this view, I am still inclined to keep it in the present place; for its influence in increasing the flow of perspiration is not exerted in stimulation of the sweat glands, but in its effect on the circulation. It should be clearly and definitely understood, however, that, *as yet*, aconite has not been proven to check oxidation; and there can be no doubt that by relaxing the blood-vessels in the heat-losing area, and lessening the rapidity of the circulation therein, it increases the heat loss.

The chief use of aconite is probably in the ephemeral fevers, especially in children. Sidney Ringer and Bartholow both speak of its value in the highest terms.

It reduces both the frequency and force of the heart's action, and there can be little doubt that it dilates the capillaries in the heat-losing area. There is a difference of opinion, however, on this point. Achscharumow and Nunneley (quoted by Wood) were unable to determine any alteration whatever

in the calibre of the blood-vessels; but the perspiration which so generally occurs after the use of this drug, would seem to indicate that in man, at least, it causes dilatation of the vessels of the skin. In a case of aconite poisoning, reported by Bartholow, the patient's skin was covered with a profuse sweat, and his temperature fell 2° F.

When given in medicinal doses, the effects of aconite begin to exhibit themselves within half an hour, and last about three hours. It is an exceedingly active drug, and hence should be given in small doses and at short intervals. A mode of administration highly recommended by Ringer, is to give one-fourth of a drop every fifteen minutes or half hour till six or eight doses have been taken, and then to give a somewhat larger dose at longer intervals.

Bartholow advises the hourly administration of drop doses to reduce the temperature in cases of ephemeral fever. There can be no question as to the fact that aconite is a most efficient febrifuge in cases of this character, especially in children. Bartholow speaks in very high terms, also, of its use in the eruptive fevers, especially scarlet fever, and states that it prevents the kidney troubles and the affections of the ears, so frequent as complications in this disease. In measles, also, it is useful as a preventive of lung complications, as well as a febrifuge. In phthisis, it has given good results in allaying the fever, especially where there is a fresh and rapid rise of temperature from the invasion of another portion of the lung. The drug is quite irritating to the gastro-intestinal mucous membrane, and should not be used in any case where there is a tendency to inflammation of this part. It is contra-indicated, also, where there is much exhaustion of the vital powers and depression of the heart's action.

The dose should never exceed two drops of tincture of the root, and this preparation only should be used. The antidotes, when dangerous symptoms arise, are alcoholic stimulants, ammonia and digitalis. The tincture of the U. S. Pharmacopia is nearly four times as strong as that of the British.

Veratrum Viride belongs to the same class with aconite—cardiac sedatives. In large doses, it causes great depres-

sion, and also vomiting, and occasionally purging. In medicinal doses, it lessens, to a very marked degree, the force and frequency of the pulse, differing essentially from digitalis, which lessens the frequency but augments the force. It seems, so far as known, to have but little influence on the secretion of urea; but the same reasons which led me to class aconite with the remedies which reduce fever by indirectly checking heat production, induced me to place veratrum in the same class. It causes, in full medicinal doses, very great relaxation, and frequently induces sweating: but the chief manner in which it reduces the temperature in parenchymatous inflammations of the lungs or other organs (in which cases alone it has any special applicability), is by lessening the blood supply to those organs—(Bartholow). Both Wood and Bartholow condemn its use in typhoid fever in most emphatic terms, and state that no one would ever think of using it who had any knowledge of the rationale of its action, and of the pathology of this form of fever. Still it is a good deal used by some practitioners in this disease, and especially by those who judge of the condition of their patient by the pulse solely, and who never use the thermometer.

A friend tells me of a case of typhoid fever recently under his care, in which he administered this drug for excessive tympanites. The relaxation which followed effectually relieved this symptom, but was attended with alarming collapse. The patient rapidly revived under the use of stimulants, and ultimately recovered.

The field of usefulness of veratrum as an antipyretic is very small indeed. The depression which it may cause, and the weakening of the heart's action, so apt to occur in fever, at any rate contra-indicate its use as a general rule.

Veratrum quickly attains its maximum effect, and if it be desired to keep up this effect, it should be administered at intervals not exceeding three or four hours—Bartholow says two hours. The cases in which it may be given as an antipyretic, are those in which the fever is due to parenchymatous inflammation of some organs—notably, the lungs before the stage of hepatization, and in which the pulse is full and

quick. In such cases, a considerable reduction of temperature may be expected. It is contra-indicated when the pulse is weak and there is gastric irritability. The dose is from two to five drops of the tincture, and this preparation only should be used. Brandy and ammonia are antidotes to its action, and usually give prompt relief.

Blood-letting—"a lost art of the profession"—was once much in vogue as a remedy for fever; but the practice once so much resorted to, is now a thing of the past, at least, so far as *general* blood-letting is concerned. No doubt the reaction from its excessive use has caused it to be resorted to too seldom, but its sphere of usefulness as an antipyretic is very narrow. Indeed, it is, perhaps, never practised purely for this purpose at the present day.

The red corpuscles of the blood are, it is well known, the conveyers of oxygen, and if the number of these little elements be diminished, the amount of oxygen which is carried to the tissues would also be diminished, and, of course, less oxidation and less heat formation would result. Blood-letting, however, has another effect. It causes the capillaries in the heat losing area to dilate, and there is, consequently, greater heat loss. The temperature would thus be lowered in both ways.

It has been found that the corpuscles are rapidly re-formed in healthy persons, who have been subjected to a general bleeding, and hence it would seem that no serious evil results would be apt to result; but in an individual suffering from typhoid fever, or any fever indeed which usually kills by exhaustion, such a remedy should be resorted to with great reluctance.

In certain cases of brain fever or pneumonia in plethoric and robust subjects, when the symptoms showed that there was urgent and immediate danger to life, a copious bleeding would unquestionably prove beneficial; but the reduction of temperature is only one of a number of good results which we would hope to obtain by such a procedure. It is safe to say that, with our present knowledge, it would be altogether improper to resort to blood-letting for its antipyretic effect simply, unless it was especially indicated for other things.

If deemed advisable to resort to this practice at all, it should be done but once, and not at frequent intervals as formerly. The amount drawn must depend on the circumstances of the individual case. It is usually advised that the patient be placed in a sitting posture and bled till a feeling of faintness is produced.

Chloral Hydrate, according to Dr. J. Milner Fothergill, is "a powerful remedy for controlling the temperature in febrile conditions."* He states that it is *par excellence* the hypnotic of pyretic conditions. All who have investigated the subject, so far as I can learn, agree as to its apyretic properties, but the cardiac depression which it produces, and the uncertainty as to the purity of the drug, will always prevent it from becoming a popular or *safe* remedy. It exerts its effects through the circulation, lessening both the force and frequency of the heart's action. It is probable, also, that it interferes, to a slight extent, with the exchange of gases in the tissues. There is a difference of opinion as to whether it should be classed with those agents which lessen heat production, or those which increase the heat loss. Brunton has found that if an animal be wrapped in wool, the fall of temperature is much less, after the administration of chloral, than when this is not done. Hammarsten, however (quoted by Wood), found that the fall of temperature recurs equally in animals well wrapped up and laid in a warm place. It probably acts better by diminishing the heat production and increasing the heat loss.

In spite of the favorable opinion of the antipyretic value of the drug entertained by Fothergill, it cannot be considered advisable in many cases of hyperpyrexia. Wood† states that "its other active properties will probably completely interfere with its use for this purpose in the vast majority of such cases, especially as in order to check the development of animal heat the dose must be very large." Liebreich himself, according to Binz,‡ thinks it "best to avoid the drug in ulcerations of the prima viæ, in the gouty state, in typhoid fever and in disturbances of the circulation."

*Practitioners' Hand-Book of Treatment, page 102.
†*Mat. Med. and Therapeutics*, page 324.
‡*Op. cit.*, page 35.

Bartholow* claims to have seen "excellent results" from its use in pneumonia and the eruptive fevers, when the temperature is high, and much delirium and restlessness are present. It should never be thought of when the pulse is weak and rapid and exhaustion is threatening.

The dose, according to Bartholow, is from five to twenty grains, but he says it should not be forgotten that thirty grains have produced toxic symptoms. The antidotes to its action are ammonia and alcoholic stimulants.

Opium has quite a decided effect in diminishing the amount of urea excreted, and while it is not used simply as an antipyretic, it unquestionably causes a fall of temperature in many cases. Its *modus operandi*, like that of chloral, is twofold; it lessens oxidation, and, at the same time, increases the heat loss.

Unlike chloral, however, it does not lessen the *force* of the heart's action unless given in toxic doses, and hence it is applicable when chloral would be injurious.

It lessens the frequency of the pulse, while it increases its force. Perspiration is frequently caused by it, but it has a constipating effect on the intestinal canal.

It is applicable in a great number of cases of fever, and unquestionably produces some antipyretic effect.

[To be Concluded in February Number, 1879.]

Original Translations.

From the German. By ARTHUR Z. KOINER, A. M., M. D., Richmond, Va.

The Application of Electricity in Case of Nervous Vomiting. By Prof. Semmola (*Gasetta Med. Ital. Lomb.*, No. 6, 1878. *Rundschau*, Sept., 1878.) The writer has applied the constant current in cases of nervous vomiting with the most satisfactory results. Immediately after the first application, he has seen a return of tolerance for food in the stomach which for weeks had not existed. The electric current is of importance, not only in a therapeutic, but also in a diagnostic sense, in that it has been proven to be of benefit in cases of

**Op. cit.*, page 362.

nervous vomiting, which is not the case where the vomiting is due to organic affections of the stomach, or to reflex irritation from worms in the intestinal canal, or affections of the uterus. Semmola claims for himself the priority in treating this affection with the constant electric current, as there are no similar cases described in medical literature up to date. Out of twenty cases of nervous vomiting which he has thus treated, he describes the following: The daughter of an Italian delegate was afflicted with vomiting, which had lasted for three months, and had reduced her to a skeleton appearance. She had been treated by several physicians for ulceration of the stomach. One evening aphonia set in suddenly, and violent vomiting came on, causing almost a fatal termination of the case, when the writer was called in. From the occurrence of the aphonia in connection with the vomiting, he supposed a hysterical condition to exist. Since morning, the patient had taken no nourishment at all, and had vomited what had been previously taken. The treatment was begun with an electric apparatus from Onimus. After the first application, the patient could retain a cup of milk. Further examination revealed a globus hystericus. The electrodes were first applied between the muscles of the side of the neck and the larynx; then over the neck and over the stomach; five minutes afterwards the patient was able to call her father loudly. For several successive days, the current was applied several times a day, and each time for five minutes—the electrodes being placed upon the neck and over the epigastrium. The vomiting ceased entirely, and for two months the patient has been entirely cured.

Extraction of a Subretinal Cysticercus with Preservation of the Sight.—By Prof. Hermann Cohn (*Med. Chir. Rundschau*, September, 1878). It has been observed that teniæ sometimes get out of the alimentary canal into the blood, and wander occasionally through a vessel of the arterial coats under the retina in the neighborhood of the optic nerve, and there develop into cysticerci. The retina then becomes more and more loosened at that point, and the patient's attention is first aroused by the appearance of a dark spot in the field of vision. Until recently, and according to Albrecht von Graefe, it was not considered proper to attempt to remove cysticerci appearing in the region of the posterior pole of the eyeball, because it was feared the eye might be entirely lost by the operation; but all such eyes were finally lost by inflammation—often endangering the second eye by sympathy, or this had to be extracted on account of unendurable pain.

A few months ago, Alfred Graefe, in Halle, published two cases, where he had been able to determine the exact position of the cysticercus by means of the ophthalmoscope; and after turning the eye backwards, the place was hit by a cut through the sclerotica. In the first case, a part of the worm was removed; and in the second, the entire worm was fortunately removed.

Cohn operated upon a lady, 26 years old, who had suffered from tape-worm but a few months previously. Upon examination with the ophthalmoscope, a living cysticercus was found under the retina, external to the optic nerve near the posterior pole of the eye. Exactly in accordance with Graefe's description, he divided the external muscle at its insertion, turned the eye as far backwards as possible, and with a cataract knife made a meridial cut of 10 mm. length at the determined spot, through the sclerotica, and thus was enabled, with forceps, to remove the worm with its cyst of 7 mm. diameter intact. Then the muscle was sewed back to its place of division; compression and cold applications were made. The operation was performed without anæsthesia. The healing progressed well, so that the patient was able to go out on the seventh day. The shape of the eye was preserved; the tension was good; no difficulty of movement, nor squinting, nor color blindness resulted. The field of vision was somewhat increased above; acuteness of sight same as before the operation. The position of the cysticercus was indicated by a bright white spot in the coat of the artery under the retina.

Reduction of Two Constricted Herniæ by Esmarch's Elastic Bandage.—By M. Chapelle (*L'Annie Médicale*, No. 4, 1878, *Med. Chir. Rundschau.*) The first case was a day laborer, 72 years old, who had a left inguinal hernia of 57 years standing. He had never worn a truss; the hernia seldom came down, and was then always easily replaced. On September 6th, the hernia came down without any unusual exertion on the part of the patient, and he was not able to replace it. On the following day, he was received at the Hotel Dieu. Immediately after he was received, a bath was ordered, in which he remained an hour, during which time all possible methods of reduction were tried without effect. Then ice bags were applied to the tumor. On September 8th, the patient vomited greenish liquid. His general condition being good, another effort was made to reduce it by taxis, under full anæsthesia with chloroform. This method, so often effectual, also failed. As the condition of the patient did not

demand operative procedure, it was resolved to try Esmarch's elastic bandage in the following way: The end of the bandage was held fast over the pubic arch; the bandage was then carried under the scrotum around the thigh, with three to six circles over the tumor; then the bandage was carried over the hips seven or eight times, and fastened with a pin. After an hour had elapsed, the patient felt the hernia going up, and the examination showed it to have been completely reduced. The second case was a woman with a left femoral hernia. Likewise in this case, all the ordinary procedures for reduction were tried, and after their failure, compression was resorted to. The application was made as follows: A graduated compress was laid over the hernia, and the bandage wound around it. It has been suggested to interpose a thin layer of wadding between the skin and the first circles of the bandage.

Transmission of Syphilis by the Saliva.—By Böttger (*Rundschau*, September, 1878.) The writer observed in a little girl of nine years, a bilateral syphilitic iritis. The parents of the child had never had syphilis; but the child had received from a careless syphilitic house maid, food, which she had put in her mouth and chewed before giving it to the child. The child suffered also in the course of the disease from a perforation of the soft palate. The iritis was cured by anti-syphilitic treatment.

Dyspepsia after Typhoid Fever.—Dr. Richard von der Velden reports (*Berl. Klin.*, No. 50) the results of his observations as to the cause of dyspepsia in cases of typhoid fever. He holds that it is due to a diminished amount of hydrochloric acid in the stomach, and that this want of the acid extends far into convalescence. He observed a want or diminution of pepsin. He therefore advises the use of muriatic acid in these cases.—(K.)

The Collodion Bandage in Umbilical Hernia of Children. (*Ctrlbl. Zeitg. f. Kinderheilk.*, 1878, No. 21.) Dr. Monti, in Vienna, modifies the collodion bandage used by Rapa for umbilical hernia of children, and after detailing its obvious advantages over the various other methods, he gives the following description of its application: The mother takes the child upon her lap, so that its shoulders rest upon the left knee, and the pelvis upon the right knee of the mother—the upper extremities are held by her left, and the lower by her right hand. The surface over and around the hernia is now freely brushed with collodion; then the hernia is reduced, and over the umbilical ring a compress is laid, 4 cm. wide

and 3 cm. long, after the under surface of it has been brushed with collodion. The compress is then held in position by an assistant, and a long strip of adhesive plaster, 3 cm. wide, is laid on with its middle across the umbilicus. This adhesive strip must be of sufficient length to allow the ends to reach around the back and cross again over the abdomen of the child. While the plaster is being applied, an assistant should press the edges of the recti muscles close together. Over this adhesive strip, a linen bandage of the same size is finally fastened, and the entire exposed surface of the bandage is covered with collodion.

Dr. Monti has modified the collodion bandage in the following manner, in order to avoid the irritation it occasions. Instead of adhesive plaster, he employs a mixture of emplastrum diachyli simplex and ceratum fuscum, in the following proportions:

℞. Emplast. diachyl. simpl.....gramme 30.00
Cerati fusci..... " 10.00
Olei oliv.....q. s. ut. liquefact.
S: Fit emplast. D. S.

This bandage is of easy application, and when properly adjusted, may be worn for three or four weeks.

The child may be regularly bathed, but still the bandage will generally remain two or three weeks. It gives the child no inconvenience, and when rightly applied, it exerts a counter pressure upon the hernia, this being regular for several weeks at a time, the closing of the ring is more easily accomplished than by any other method. It has the advantage that as it is only renewed every two to four weeks, it may be done by a physician, and, therefore, always be properly adjusted.

Carbolic Intoxication from Washing Out the Puerperal Uterus.—By Otto Küstner, in Jena (*Centralblatt f. Gynek.—Rundschau*, October, 1878.) Acute carbolic intoxication occurred in two cases of puerperal women in the practice of the writer from washing out the womb with a solution of carbolic acid after childbirth. The picture of intoxication was as follows: Livid face, rolling of the eyeballs with strabismus convergens and contracted pupils, absence of consciousness, increase of respiration to 40, and pulse to 150 and more per minute; clonic spasms, jerking and twitchings after cessation of the convulsions; then comes a cold, clammy perspiration, vomiting, and the characteristic black carbolic urine and hæmorrhage from the uterus. Fortunately, both of these poisoned women recovered. The writer desires not

to be understood as underrating, by this publication, the methods of uterine irrigation—far from it. But he regards these two, as well as other similar cases, to be a clear warning against carrying on the modern irrigation of the uterus with carbolic acid solution in an indifferent way.

Pilocarpin.—Several articles have recently appeared in various German journals upon the subject, pilocarpin as an agent for procuring abortion, and as a remedy for eclampsia. But writers who have tried the drug seem to disagree as to its value in the first instance. Prof. Kleinwächter, in Innsbruck (in the *Archiv. für Gyn.*, Band xiii, Heft 2, page 280), describes a case of narrow pelvis where it was necessary to bring on premature labor, which he effected rapidly by means of the drug pilocarpinum muriaticum, and with the best results for the woman. He attributes the death of the eight months' child to the transverse position into which it was drawn by violent pains, and the narrow pelvis. Labor was brought on by subcutaneous injections of pilocarpin, two per cent. solution. Three injections were made into the thigh in thirty-three hours. The first and second injections contained about 20 milligrammes each, and the third about 15 milligrammes; whereupon the pains began and the birth was accomplished in thirty hours by version and extraction of the child. On the 9th day thereafter, the mother returned home in good condition.

On the other hand, Dr. E. Welponer, of Vienna, mentions a case in which he has tried pilocarpin to no effect. In four days, he made four injections of a two per cent. solution, 20 milligrammes at a time. Neither uterine contractions nor changes in the cervix were observed; then he waited three days longer and repeated the injections, but with the same negative results. Not wishing to interfere longer with the nutrition of the patient, he gave it up, and adopted another method with good result.

Dr. E. Bidder recommends pilocarpin in eclampsia (*Centralblatt für Gynäk*, 1878, No. 15). He reasons from the proposition that every eclamptic or epileptic attack is due to an acute diminution of the circulation of blood in the brain. As such a condition is brought about by a checking of the arterial circulation, we have to regard an acute ischæmia of the brain resulting from a vaso-motor cramp, as the most frequent cause of eclampsia. The practical therapeutics of eclampsia bears out this fact, for everything that relaxes the blood-vessels is here of good effect—be it venesection, narcotics, rapidly emptying the uterus, drastics, or the like.

According to theoretical acceptation, therefore, pilocarpin, which diminishes the tone of the arterial walls, must be of good effect. He describes two cases where eclamptic attacks occurred before and after the births of the children, where one to two injections were made (6.02 grm.), and the attack ceased and did not return; but these cases are not entirely conclusive, since chloral hydrate was also used. The next case points more clearly to the effect of pilocarpin alone.

Dr. Stragnowski, in Lemberg (*Ctrlbl. f. Gyn.*, 1878, No. 20), injected a two per cent. solution of pilocarpin in the case of a woman, where subcutaneous use of morphia had failed to have the desired effect. In two minutes, the effects of the medicine were noticed—perspiration and salivation; the patient was quieted and fell asleep. In three hours, the pains came on; five hours after the first injections, a second was made, and the labor ended by the extraction of the child with forceps; the mother soon recovered, and the intense albuminuria ceased entirely.

Early Recognition of Epithelial Cancer.—(By Busch in *Langenbeck's Archiv.*, 1877, 21 B). The writer describes the genesis of epithelial cancer from a clinical point of view. At first, a hard scale or scab is observed, which holds fast to the epidermis. Carefully remove this hard scab, and from its under surface may be seen very numerous small, horny projections, which sink down among the cutis follicles. The skin is not excoriated where the scab has been removed, but is still covered with a tender layer of epidermis. The papillæ of the skin are hypertrophied. This condition may exist for years. Finally, an active growth sets up in the deeper epidermis layers, and a cancerous sore is developed. By preventing the accumulation of these masses of epidermic scales, and thereby the constant irritation caused by them, we may, at the same time, prevent the development of the cancer.

The best method of accomplishing this is by washing with a 0.5 per cent. solution of soda; and after the scales have been removed, a bandage should be applied saturated with a stronger solution—2.5 per cent.

The writer has seldom observed recurrence of the disease after this prophylactic process of treatment. These accumulations of epidermic scabs are often found upon the nipples of elderly women, when they stop up the outlet and cause constant irritation of the glands. Even when the connection between this and epithelial cancer of the gland is not clearly established, its removal is recommended.

Proceedings of Societies.

Baltimore Medical and Surgical Society.

(Reported by Dr. J. H. Scarff, Secretary, &c.)

Oct. 24*th*, 1878.—**Fracture of Patella.**—Dr. Monmonnier related a case of fracture of the patella, advancing the idea that there could be over-extension upon the upper fragment, pressing it down into the triangular space between the femur and the tibia, and deformity might result by the tilting of the edges of the fragments. The doctor thinks that much better results are obtained by bringing both fragments into their proper place.

Oct. 31—**Fracture of Ribs.**—Dr. Monmonnier advised the use of a broad strip of adhesive plaster in cases of fractures of the ribs, as he thinks the fragments can be much better held in apposition in this way.

Larynx of Membranous Croup.—Dr. Leonard exhibited the larynx of a child that had died of membranous croup. A large portion of the membrane still remained adherent to the walls of the larynx. A spirited discussion here arose, participated in by Drs. Hartman, Arnold, Brown, Erich, regarding the length of time a foreign body could remain in the larynx without any bad results. Several cases were related; among them the case of Dr. Lefferts, of New York, in which he had removed a ring that had been broken, the two prongs catching in some part of the larynx.

November 7—**Dilated Right Heart.**—A heart was exhibited by Dr. Scarff, showing an immense dilatation of the right side as the result of a passive hyperæmia or congestion of the lungs; weight, 1 pound and 12 ounces. Fearful paroxysms of dyspnœa occurred during the patient's illness; pulse irregular and intermittent; general anasarca.

Stab Wound of Femoral Artery.—Dr. Brown exhibited a portion of a femoral artery, in which there was an incision from a stab, and a large clot still remaining intact. Prior to death, the artery was ligated in Scarpa's triangle, and the patient did very well for several days, when traumatic delirium set in and death ended the case.

Sandal Wood Oil for Catarrhs.—Dr. J. J. Caldwel spoke at some length of oil of real sandal wood for catarrhs—for instance, nasal catarrhs, catarrhs of the bladder, and more especially for specific urethritis. The Doctor said he had used large quantities of this remedy in the above-named diseases, and preferred capsules to any other mode of giving it.

Next in order was the reading of Dr. P. C. Williams' paper, "Some Remarks upon Puerperal Eclampsia, based upon some cases under his care" [which will appear in full in an early issue of the *Monthly*].

Book Notices, &c.

The Cell-Doctrine—Its History and Present State—Also, a Copious Bibliography of the Subject By JAMES TYSON, M. D., Professor of General Pathology and Morbid Anatomy, University of Pennsylvania, etc. Second Edition. Revised, Corrected and Enlarged. Illustrated. Philadelphia: Lindsay & Blakiston. 1878. 12mo. Pp. 199. Price $2. (From Publishers.)

After going over the history of the cell-doctrine, from the days of Aristotle, Dr. Tyson reviews the several prominent theories which have been advanced—of Haller, Wolff, Oken, the "globular theory" of Raspail, Schleider and Schwann, etc. Although accrediting to Schwann the honor of first directing attention to the proper channel of thought and investigation, still the author finds many defects in his views. And after reviewing a number of later opinions from recent writers, he then presents a summary statement of the cell-doctrine, and adds his own views. "*The cell, or elementary part* is best defined as the smallest *mass of living matter possessing the essential life-properties of reproduction, nutrition, growth and development.*"

The book is especially designed for students in medicine and dentistry, but is also worthy of a high place in the esteem of students of biology and histology. It is, indeed, a work which may be beneficially read by all classes of the educated public in reference to the later views of development.

We are amazed at the amount of writing that has been published on this subject. Over 40 pages of "bibliography" are appended.

Rest and Pain. By JOHN HILTON, F. R. S., F. R. C. S., Surgeon Extraordinary to Her Majesty, the Queen; Consulting Surgeon to Guy's Hospital; late President of the Royal College of Surgeons of England, etc. Edited by W. H. A. JACOBSON, F. R. C. S., Assistant Surgeon to Guy's Hospital. Second edition. New York: Wm. Wood & Co., 1879. 8vo. Pp. 299. Cloth. Price, $1.25. (From Publishers.)

This is the first volume (promised for January, 1879) of "Wood's Library of Standard Medical Authors." A volume of some work will be issued each month during the year

1879. To cash subscribers *for the year*, the charge will be $12 on delivery of the first volume—other volumes to be sent free. Those who remit $6 in January and July will have to pay express charges on the volumes for these months; but the volumes for the remaining ten months will be sent free. Those who order one volume at a time will receive it free of postage on remitting $1.25. There was never, in our knowledge, such a favorable opportunity for a doctor to get up so good a library so cheaply.

The present volume consists of "a course of lectures on the influence of mechanical and physiological rest in the treatment of accidents and surgical diseases, and the diagnostic value of pain, delivered at the Royal College of Surgeons of England in the years 1860, 1861 and 1862." This second edition is a revision made in 1876 of the first edition, which was soon out of print. These lectures, in the beginning, review "the marvellous contrivances which nature has employed for securing rest to the different organs of the body when in health." They next point out the "instinctive promptings of nature to secure rest on the occurrence of accident or disease." Finally, "the different appliances for the attainment of rest" which the surgeon uses, are shadowed forth. The work is illustrated by 109 wood-cuts.

Lectures on Bright's Disease of the Kidneys.—By J. M. CHARCOT, Professor in the Faculty of Medicine, Paris; Physycian to the Salpétrière, etc. Collected and Published by Drs. BOURNEVILLE and SEVESTRE. Translated by HENRY B. MILLARD, M. D., A. M., New York: Wm. Wood & Co. 1878. (From Publisher.) 8vo. Pp. 100.

These lectures were delivered some years ago at the School of Medicine of Paris, and were published in French about a year ago. "No disorder of the kidneys is considered, with the exception of scarlatinous nephritis, but such as may be strictly included under the denomination of 'Bright's disease.'" M. Charcot follows in his classification some of the English writers, and reduces the forms of the disease to three: 1. Parenchymatous nephritis; 2. Interstitial nephritis; 3. Amyloid kidney, which, by some recent writers, had been separated from ordinary Bright's disease. The points of differential diagnosis are well brought out. It is unfortunate, perhaps, in view of the general wish of practitioners, that so little has been said in regard to treatment. But the clearness of M. Charcot's descriptions, and the accuracy of his observations, the carefulness of his methods of study, and the remarkable conciseness of his writings, give the book before us a pre-eminence above other books on the same subjects. The work is well edited and translated. Two excellent chromo-lithographs of the diseased kidneys are appended.

Lectures on Localization in Diseases of the Brain.—By J. M. CHARCOT, Professor in the Faculty of Medicine of Paris, etc. Edited by BOURNEVILLE. Translated by EDWARD P. FOWLER, M. D., New York. New York: Wm. Wood & Co. 1878. 8vo. Pp. viii—133. (From Publisher.)

It is impossible in a few lines to give a full idea of the great value of this book.

Every one familiar with current medical literature, is aware of the eminent authority of M. Charcot on the subject indicated by the title. The work is simply indispensable to one who wishes to comprehend the relation of symptoms to cerebral lesions. A number of wood-cuts illustrate the author's teachings.

Conspectus of Organic Materia Medica and Pharmacal Botany, Comprising the Vegetable and Animal Drugs.—By L. E. SAYRE, Ph. G. Philadelphia: D. G. Brinton. 1879. 8vo. Pp. 220. (From Publisher.)

This book opens with a "Chart of Botanic Materia Medica," giving the officinal, botanical and common names of all the important vegetable drugs of the Pharmacopœia, stating the natural orders to which they belong, their habitats, the parts of drugs used, their constituents, medical properties, doses and officinal preparations. Then comes a Geographical Grouping of the Materia Medica. A chapter on Structural Botany then is introduced. Next, a Botanical Arrangement of Plants is given into classes, orders, genera, species and varieties. Pages 61—211 inclusive are taken up with Organic Materia Medica, naming the characteristics, constituents, adulterations, etc. of drugs. A condensed Table of Vegetable Antidotes and Incompatibles is then given. The book concludes with a complete Table of the Alkaloids, giving their tests, solubilities, etc. It is a very useful work.

The Therapeutic Forces.—By THOS. J. MAYS, M. D., Philadelphia, Lindsay & Blakiston. 1878. 12mo. Pp. 143. Price $1.25. (From Publishers.)

The chief object of this work is to encourage the practitioner to become a *rational* therapeutist. It outlines the principles which underlie the action of some of the most important therapeutic agents, in the light of the doctrine of the "conservation of forces." Dr. Mays considers examples of the three great general classes of therapeutic agents—chemical and mechanical stimulants and narcotics. "By regarding these agents as the embodiment of forces, we can readily account for the cause of the great difference in the effect of small and large doses." It is quite readable and suggestive.

A Clinical History of the Medical and Surgical Diseases of Women.—By ROBERT BARNES, M. D., London, Late Examiner in Obstetrics and the Diseases of Women at the University of London, and the Royal Colleges of Physicians and Surgeons, etc. 2nd Amer. from 2nd and Revised London Edition. 181 Illustrations. Philadelphia: Henry C. Lea. 1878. 8vo. Pp. 784. (For sale by Messrs. West, Johnston & Co., Richmond.)

Dr. Barnes needs no introduction to the American profession, among whom he already has a host of admirers and friends. The revisions of the former edition have made this edition of international value. In fact, we look upon this book as an essential to every medical library. It presents the personal experience of one of the greatest teachers the world has ever known. As valuable as is Dr. Thomas' great work in the question of authority, it is, at the same time, more extended in its range, and hence more useful to one now about to purchase a work on diseases of women. Besides many additions of great importance though of less pretensions, there is a distinct chapter in this volume on the Relations of Bladder and Bowel Disorders to Uterine Diseases.

Vest-Pocket Anatomist.—By C. HENRI LEONARD, M. D. 2nd Enlarged Edition. Detroit. 1878. 16mo. Pp. 60. Paper. 50 cents.

This is a very valuable pocket-book for every practitioner. It is, in brief, an abridgement of Gray's Anatomy. Strange such things of so commonly recognized use to every doctor are not more generally prepared.

PAMPHLETS RECEIVED, for which we have no room in this issue to give more than titles:

Narrowing, Occlusion and Dilatation of Lymph Channels, Acquired Form. By SAMUEL C. BUSEY, M. D., Professor of the Theory and Practice of Medicine, Medical Department of the University of Georgetown; Physician to the Children's Hospital, etc. Reprint of a serial contribution to the *New Orleans Medical and Surgical Journal*, commenced November, 1876, and concluded March, 1878. 8vo. Pp. 195. Thirty-one wood-cut illustrations. (From the Author, Washington, D. C.)

Gastro-Elytrotomy.—By HENRY J. GARRIGUES, M. D., Fellow of the American Gynæcological Society, etc. With three wood-cuts. Reprinted from *New York Medical Journal*, October and November, 1878. 8vo. Pp. 78. (From Author, Brooklyn, N. Y.)

Apparatus for Transfusion—Asphyxia in New Born Children, Considered from a Medico-Legal Standpoint. (Papers read before the New York Obstetrical Society.) By the same Author. Reprint from *American Journal of Obstetrics and Diseases of Women and Children*, October, 1878. 8vo. Pages 14. (From Author.)

Laparo-Elytrotomy—A Substitute for the Cæsarean Section.—By T. GAILLARD THOMAS, M. D., New York. Reprint from *American Journal of Obstetrics and Diseases of Women and Children*, April, 1878. 8vo. Pp. 25. (From Author.)

Comparison of the Results of Cæsarean Section and Laparo-Elytrotomy in New York. Reprint from *New York Medical Journal*, May, 1878. By same Author. 4 pages.

Intra-Venous Injection of Milk as a Substitute for the Transfusion of Blood. Illustrated by Seven Operations.—By T. GAILLARD THOMAS, M. D., New York. Reprint from *New York Medical Journal*, May, 1878. 8vo. Pp. 19. (From Author.)

Optic Neuritis, with Notes of Three Cases.—By C. J. LUNDY, M. D., Detroit. Reprint from *Detroit Lancet*, December, 1878. Pp. 17. (From Author.)

Cholecystotomy for the Removal of Gall-Stones in Dropsy of the Gall Bladder. By J. MARION SIMS, M. D., Founder of the Woman's Hospital of the State of New York, etc. Reprint from *British Medical Journal*, June 8th, 1878. Pp. 20. (From Author.)

Removal of Naso-Pharyngeal Polypus by Temporary Depression of Both Upper Jaws.—By L. McLANE TIFFANY, M. D., Professor Operative Surgery, University of Maryland, Baltimore. Reprint from *Transactions of the Medical and Chirurgical Faculty of Maryland.* 1878. Pp. 8. (From Author.)

Editorial.

Rhizopod Catarrh.—We are informed by letter from Dr. Ephraim Cutter, of Boston, who has been devoting considerable attention to the subject, in conjunction with Dr. J. H. Salisbury, of Cleveland, Ohio, that an epidemic of rhizopod catarrh is now prevailing in his section. Burning sulphur is proving a speedy and effectual cure. Dr. Cutter adds, "I think it must exist in the South, as we have thousands of such cases here."

It is due Dr. William D. Hooper, of Liberty, Va., to state that several years ago he read before the Medical So-

ciety of Virginia a paper in which he described the rhizopods and announced them as a cause of catarrhal symptoms, but his paper was not published. In view of the importance which the subject has recently assumed, it is to be hoped that the Doctor, and others who may have opportunities, will follow up the subject, and give the profession the benefit of their observations.

The Southern Practitioner enters the journalistic field January, 1879. This first number is marked by an editorial industry that bespeaks for it success and a useful career. It contains practical articles from such medical observers as Drs. Thos. Lipscomb and Frank A. Ramsey, of Knoxville, Tenn., A. W. Calhoun, of Atlanta, T. Chalmers Dow, of Nashville—besides reports of cases, selections, editorials, etc. This number contains 51 pages. Yearly subscription only $1 in advance. Published in Nashville, Tenn.

The Index Medicus is a most commendable undertaking. We hope it will meet from the commencement with abundant support. The profession will rejoice especially that Dr. Billings is in editorial charge. No one in the country is more competent, more generous in bestowing professional favors, or has equal opportunities for making this enterprise of the great practical value that we are sure it will be. The editor will have the able assistance of Dr. Robert Fletcher, M. R. C. S. See advertisement of *Index Medicus* in this number.

The Offer of $25 for a Paper on Masturbation, setting forth forcibly and clearly enough for comprehension by youths of twelve or fourteen years of age, first, the *physical and mental ruin* which results from the habit, and second, the *moral guilt* incurred by the practice, is open until February 1, 1879. It is hoped that many good papers will be forwarded to "A. B.," Randolph Macon College, Va., from which the best paper may be selected by a board of medical examiners. Nothing is wanted on the treatment of the effects of masturbation. The name of the author of the *prize* essay will not be published if he objects. Many thousands of the paper will be circulated chiefly among the youths of this section of the country. The suggestion of this essay meets with the approval of eminent practitioners, and the gentleman who offers the prize deserves the thanks of the profession and people. It is an effort to do good.

This Issue of the Medical Monthly has been unavoidably delayed; but we trust subscribers will feel compensated for

the annoyance of delay in the special merits of the number we now send forth. *The Transactions of the Medical Society of Virginia*, bound with this number, in themselves form a volume of more than ordinary importance. Indeed, they might be confidently submitted for comparison with the Transactions of any State Society. The papers of some of the medical gentlemen of our own State, and Fellows of the Society, by their merits, entitle the authors to distinction. But, in addition, in this volume will be found other papers by Doctors whose names are familiar in every land where the medical art is taught.

Dr. Lewis A. Sayre, of New York, delivered a most instructive practical clinical lecture, with that impressive style so characteristic of the great surgeon, which cannot be forgotten. His demonstrations of the value of the plaster-jacket were eminently successful and satisfactory. Dr. Sayre's visit to our city, and his special courtesies were manifestly appreciated by the profession and those of our citizens to whom he rendered professional services.

Dr. Robert Battey, of Georgia, contributed a paper of great practical importance. He is not an enthusiast, but simply a diligent, earnest student of medicine, and an independent thinker. While warm-hearted in all of his impulses, his modesty makes him appear as if unconscious of his own greatness, and of the eminence as an authority he has won in the world of medicine.

Dr. B. P. Anderson, of Colorado, kindly responded to an invitation to attend the session, and presented a paper which was highly appreciated. His paper will prove of special interest to those in search of health resorts. In view of the favorable impression left upon all as to the merits of his paper, we regret that his stay with us was so brief that but few had an opportunity to become personally acquainted with him.

The Engraving and Biographical Sketch of Dr. Julian J. Chisolm, which enrich this January number, have been carefully prepared. and will prove of interest to the large circle of friends and admirers of this eminent eye and ear surgeon. In recording his professional life, we have tried to impress the reader with the manner in which Dr. Chisolm finally reached the position of a true specialist. A true specialist in medicine occupies a most exalted position, and can be attained in no other way than by passing step by step from the general to the special. There is a so wide spread erroneous view of this subject—especially by those who have just se-

cured their diplomas—that we wish we could urge every one that looks to a specialty to read this biographical sketch before he ventures to "limit his practice." Unless the student has a sufficiently broad, *general* education in medicine, as with the distinguished subject of this sketch, his attempt to become a specialist will prove a failure, or, what is worse, he will turn out to be a quack or a charlatan.

Presbyterian Eye and Ear Charity Hospital of Baltimore. Through the solicitation of Prof. Julian J. Chisolm, the Presbyterians of Baltimore, over a year ago, organized this charity for the exclusive treatment of eye and ear diseases. The first annual report shows that 1813 patients have been treated; 110 were received into the hospital wards—only such cases as demanded serious operation. The organization is of such a character as to insure its permanency. The institution is open to *all poor* persons. Prof. Chisolm is chief of the medical staff, and has the assistance of Drs. W. J. McDowell and Wm. N. Hill.

This January Number contains only 56 pages of journal reading matter, because we have in some earlier numbers greatly over-run 80 pages. The complete fifth volume of the *Monthly*, with the *Transactions of the Medical Society of Virginia* bound with this number, will make a volume of about 1200 reading matter pages, instead of 960 pages as promised in our advertisements of this volume.

We are compelled to lay over for future issues much accepted matter.

Our February number will be out in two weeks after the issue of this January number, and our March number, with the index for Volume V. will be mailed on time.

Obituary Record.

Dr. Edwin C. Teeter died at his home at Wallace's, Va., August 15, 1878. He was a graduate of Jefferson Medical College, Philadelphia. As a physician, he was the peer of any in the State, and as a man, honorable, generous to a fault, gifted by nature with a brilliant and profound intellect, possessing all those noble qualities which made him an excellent physician, and more, a *perfect* gentleman. For several years, he has been a useful member of the Medical Society of Virginia, and by his death, the fraternity has been deprived of one whose loss is irreparable.

M. L. W., M. D.

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RICHMOND, FEBRUARY, 1879.

Original Communications.

ART. I.—**Nature and Treatment of Fever—Remedies which Increase Heat-Loss.** By WILLIAM C. DABNEY, M. D., Charlottesville, Va.

(Concluded from page 824 January No., 1879.)

The remedies which increase the heat-loss are quite numerous. They may act either by dilating the vessels and stimulating the perspiratory glands, or by directly withdrawing heat from the body. The *diaphoretics* act in the first manner; the application of *cold* in the second. There is another difference in the mode of action of the two: All of the diaphoretics probably withdraw the blood from the heat-producing area, and thus diminish heat formation; while, on the contrary, cold bathing, while it withdraws heat from the surface, throws the blood in on the heat-producing area, and causes increased combustion. Buss* found a marked increase in the amount of carbonic acid discharged when cold baths were employed in fever cases. Still the amount of heat *withdrawn* by cold baths much more than compensates for the increased heat production.

The diaphoretics most serviceable in fever cases are:

Acetate of ammonia,
Nauseants, such as ipecac, tartar emetic, etc.,
Salts of potash,
Spirits of nitrous ether,
Jaborandi.

Most of these agents are in daily use, and require but lit-

*Mat. Med. and Therapeutics.

tle notice at our hands. There are a few points common to all diaphoretics, so far as their use in fever is concerned, that are almost self-evident. They are indicated when the skin is dry and hot, and are contra-indicated in those cases where the skin is wet and clammy.

There is considerable difference in the effects produced by the different members of this class—some exerting a stimulating, and others a depressing effect; and it will occur to any one that these are applicable under widely different circumstances.

Acetate of ammonia is a refrigerant diaphoretic, and at the same time exerts a stimulating influence. It was formerly much used in fevers. It certainly lowers the temperature considerably in the cases to which it is applicable, by causing a flow of perspiration. It is especially indicated when the patient is weak and feeble.

The *potash salts*—especially the effervescing citrate—are useful refrigerant diaphoretics. Unlike acetate of ammonia, however, they have no stimulating action, and hence are not applicable when the heart's action is weak.

The *nauseant*, or *depressant diaphoretics*, of which ipecac and tartar emetic are the most useful, are indicated in those cases of fever accompanied by a hot, dry skin and full, bounding pulse. They were formerly very much employed, but are much less used now; and it is probable that they will be employed less and less as the salicyl preparations come into more general use. It was common to combine opium and tartar emetic in the same prescription, and excellent results were obtained in this way—especially in cases where the fever was attended with violent delirium. It is unfortunate that this treatment should have been so generally abandoned, as it still answers better than any other in some cases.

The depressant diaphoretics are contra-indicated when there is much exhaustion.

Spirits of nitrous ether is universally used to reduce high temperature, especially in children, and in the milder ephemeral fevers. It is a stimulant as well as a diaphoretic; and hence is indicated in those cases where exhaustion is threat-

ened. Its elimination is quite rapid, and hence it has to be given at short intervals. The dose is from ten drops to a teaspoonful, according to the age of the patient. No great reliance can be placed in it as a febrifuge.

Jaborandi, proposed a few years ago as a diaphoretic, has not enjoyed the usual popularity of new remedies, and so far as American journals are concerned, we have seen but few reports of its use in this country. There can be no doubt, however, that it is the most active and powerful diaphoretic as yet known; and its salivating properties are equally marked. My own experience with the drug is very limited, but corresponds, in the main, with that of Riegel and others. The profuse diaphoresis which it causes is certainly accompanied by a depression of temperature. Sidney Ringer and Gould* say that, in their observations, the temperature fell from 0.6° to 2° in children, and from 0.4° to 1.4° in adults. The rise of temperature which Robin stated that he observed during the early stages of its action, only occurred in one of their cases, and was very transient. Riegel† makes a precisely similar statement. He says that in one of his cases, there was a slight and temporary rise, followed by a marked reduction of temperature; and in all the others, the reduction occurred without any previous rise. The fall of temperature, he considered due to the fluxion to the skin, and the profuse discharge of perspiration—the blood being thus withdrawn from the heat-producing area, and the evaporation also causing a reduction of temperature by the direct withdrawal of heat.

A similar statement is made by several other writers on this subject. Merkel‡ says the temperature fell in about three hours from 0.3° to 0.6°. He remarks, and most other observers agree with him in this statement, that the pulse is quickened and the heart's action enfeebled. Oehme,§ of Dresden, Purjerz, Jr.,‖ and Scotti,¶ are in full accord with the

Lancet, January 30, 1875.
†*Berliner Klin. Wochenschrift*, Nos. 6 and 7, 1875.
‡*Aurztheche Intelligenzblatt*, No. 16, 1875.
§*Deutsche Zeitschr. fur Prakt. Med.*, No. 17, 1875.
‖*Deutsche Archiv. fur. Klin. Med.*, Band xvii, heft 6.
¶*Rundschau*, February, 1878.

previous observers. Only one of those who have studied the action of this drug has failed to note the effects named on the circulation and temperature. Dr. Craig,* of Edinburgh, says that in his own observations the pulse and temperature have been but little affected. There can, however, be no reasonable doubt as to the antipyretic action of jaborandi, and Riegel's views as to its *modus operandi* are doubtless correct.

Another effect which it produces, and which I have myself remarked on several occasions, is sleepiness. Those who believe the cause of sleep to be a temporary anæmia of the brain, will find an explanation of the drowsiness in the withdrawal of blood from this organ. Investigations made by Dr. Tyson and Dr. Bowen, of Philadelphia,† seem to show quite conclusively that the amount of urea excreted is increased by jaborandi, and it has been found also that a large quantity passes off in the perspiration.

Having studied thus carefully its physiological action, we are prepared to see under what special circumstances it will be advisable as a febrifuge.

As we have just seen that it causes a discharge of urea in the perspiration, it is clearly indicated in those cases where the kidneys are incapable, from any cause, of doing the work imposed on them, and where the urea in consequence tends to accumulate in the blood. Then in those cases where the skin is dry and hot, the mouth dry and parched, the pulse full and strong, but not very quick, and in which the patients are wakeful and restless, it will doubtless be found to answer a good purpose. It has been proposed to give the drug in very small doses as a sialagogue in cases of fever when the mouth is very dry.

It is contra-indicated, of course, in those cases where the skin is moist or covered with perspiration, and should be used with caution when the heart's action is feeble. Under certain circumstances, however, the latter is not a contra-indication. In a case of Bright's disease, recently seen in consultation with Dr. W. C. Shackleford, 90 grains of jabo-

**Edinburgh Med. Journal*, January, 1876.
†*American Journal Med. Sciences*, July, 1877.

randi in infusion were given to a man to try to remove an accumulation of water in the pleural cavity, with the most gratifying results, although the patient was greatly enfeebled. The diaphoretic action in the cases which I have seen has not lasted more than two or three hours; but the fall of temperature would, of course, continue after the sweating had ceased. It would not be advisable, however, to give the remedy often for its antipyretic effect for fear of weakening the heart's action. Further investigations are needed on this point.

The best preparation is an infusion of the leaves—from 75 to 90 grains being the dose. Belladonna is a physiological antidote to its action.

Cold Bathing, as a means of lessening the temperature of the body in fevers, is not a new mode of treatment, but for a time it seems to have been almost entirely neglected, and it is only within the past ten years that it has again taken a prominent place among the antipyretics. Its *modus operandi* is sufficiently clear. It withdraws heat directly from the body of the patient, which is conclusively proven by the fact that the temperature of the water rises after the immersion of the patient. Although used by Currie in England a century ago, the baths, as we have said, fell into disuse, and have only been comparatively recently brought again to notice. Their re-introduction is due chiefly to the German schools, especially Brand, Jurgensen, Immermann and Liebermeister, and the latter speaks in the highest terms of their use in typhoid fever. Dr. H. C. Wood, Jr.,* gives a table showing the rate of mortality in the disease under this mode of treatment, and also, when the expectant method was employed, which shows most conclusively the value of the cold water treatment.

Much of the beneficial action of cold baths depends on the manner in which they are employed. Liebermeister† says that by far the best method of withdrawing heat by means of cold water, is to place the patient in a full length bath, at a temperature of 68° or lower. If the patients are very feeble, the temperature in the beginning should be about 95°, and

**Mat. Med. and Therapeutics*, pages 615 and 616.

†*Ziemssen's Cyclopœdia*, Vol. I, p. 206–212.

it should be gradually lowered until it reaches 60° or 65°. The baths should be repeated as often as a recurrence of the high temperature demands, but from 4° to 8° in twenty-four hours will usually be found sufficient. The baths should be continued at intervals as long as the temperature in the rectum reaches 101.5° (Liebermeister). Ziemssen and Immermann found the best time of day for the administration of the baths to be about seven o'clock in the morning; and Ziemssen thinks they should be used regularly in typhoid fever, between five and seven o'clock in the morning, one and three in the afternoon, and about seven in the evening. Cold affusions and cold sponging have much less effect on the temperature than a bath, and should only be used when this cannot be had. The wet pack, however, which is readily applied, answers a good purpose, and can always be used in private practice when there are no appliances for the bath. A patient should be kept in the bath about ten minutes, and in the wet pack from fifteen to twenty minutes. The experiments of Buss* and others seem to show that when the patient is first placed in the bath, the heat production is decidedly increased. Buss says that the increased heat formation in the muscles is "enormous." The temperature then sinks much below what it was before the bath.

A mode of treating fever by baths and quinine combined has been proposed and followed with good results—one or two baths being used to reduce the temperature, and then twenty or thirty grains of quinine being given to keep it down a longer time than the baths alone would do. Under this mode of treatment, a decided reduction of temperature can be maintained for from eight to twelve hours.

Cold baths are especially useful in typhus and typhoid fevers and the exanthemata, especially scarlet fever. Their use in hectic fever is, at least, of questionable utility. In cases where the patient is sweating profusely, the baths should be used with caution, and no rubbing employed; but this method of rubbing the patient during and just after the wet pack or bath, as the case may be, is highly commended by Winternitz, to whose admirable papers on the nature and treatment

**Ueber Wisen und Behandl. des Fiebres*, p. 158.

of fever we have heretofore referred. Every one is familiar with the copious perspiration which ensues, when, after a bath, the skin is rubbed dry with a wet towel.

Buss* says that general peritonitis, weakness of the heart's action, intestinal hæmorrhage, bleeding from the nose, are contra-indications to the use of baths. Liebermeister agrees with Buss with respect to the danger of baths when intestinal hæmorrhage occurs; and some writers have even gone so far as to state that the use of baths predisposes to hæmorrhage. On theoretical grounds, this view would seem to be well founded; for the blood is driven in from the surface, causing excessive fullness and consequent rupture of the vessels in the neighborhood of the ulcer. Practically, however, no difficulty has arisen in this way, so far as I am informed.

At a meeting of the Société Médicale des Hopitaux, on January 12,† 1877, M. Peter expressed himself very positively against the use of cold baths in typhoid fever, stating that not only were hæmorrhages more frequent, but that fatal syncope had been caused by them. At a subsequent meeting (January 29th), he reiterated these assertions, and mentioned cases which he thought substantiated his views. He stated further that they sometimes caused pneumonia and pleurisy. These statements gave rise to an interesting discussion, participated in by Féreol, Ferraud, Libermann, and others, which extended over a number of the meetings of the Society.‡ Nearly all those taking part in the discussion expressed a high opinion of the value of baths; and the statistics showed that in the same hospital, the mortality under this method of treatment was much less than under any other.

In the high temperature of delirium tremens, cold bathing and digitalis usually give excellent results.

This article has already been prolonged much beyond the limits which I originally intended, and I shall not add to it by considering the food most suitable for hyperpyretic states. A few words, however, as to the great importance of *nourish-*

Op. cit., page 164.

†*Le Progrès Médical*, March 10, 1877.

‡*Le Progrès Médical*, 1877. Pages 196, 235, 255, 274, 700, 735, 746, 768, and 780.

ment, and the manner in which it is disposed of after gaining access to the circulation, appear to me to be of importance.

It has been conclusively shown by Haughton and others, that the food is in great part merely burnt off on the muscles to generate force; and it has been found that so long as sufficient food can be taken and digested to generate the force necessary for the mechanical work of the body, but little wasting or loss of strength occurs. In fevers, however, the mechanical work is *greatly* increased, and hence much more force must be generated. At the same time the desire for food being lost, and the digestion being weakened, less heat producing material is introduced, and consequently the *tissues* of the body are consumed. It is thus evident, at a glance, that *nothing is more important* in the treatment of fevers than that the administration of nourishment should be in proper *quantity* and *quality* to carry on the mechanical work of the organism. In a future paper, I hope to consider this subject in detail.

ART. II.—**Electricity in its Relations to Medicine and Surgery—Lecture IV—Electricity for Neuralgia, Chorea, Hysteria, Spinal Irritation, Epilepsy, etc.** By A. D. ROCKWELL, A. M., M. D., New York, Member of the American Neurological Association; Electro-Therapeutist to the New York State Woman's Hospital, etc.

Neuralgia.—The success achieved in the treatment of neuralgia by electricity has been most brilliant. While failures follow the most skillful manipulations, and exacerbations of pain not infrequently result from careless and ill-directed applications, it is safe to say that the great majority of neuralgias, not dependent on serious organic lesion, yield readily to the proper electrical treatment; and in many cases, the distressing pains, dependent on central structural changes are very decidedly alleviated also. The relief of pain is one of the prime functions of medicine; and the question, therefore, as to the form of current best adapted for this purpose is of much importance.

There can be no question that galvanism has a far wider range in this direction than faradism. Yet, in consideration of the fact that the latter has been so ignored, it seems neces-

sary to say a word in its defence. But my experience will not allow me to doubt that faradism is not only invaluable in many forms of pain, but in certain conditions relieves, where galvanism is not only useless, but worse than useless, since it serves only to exaggerate the existing distress. When, then, a case of neuralgia presents itself for electrical treatment, two questions at once arise: 1st. What form of current is indicated? 2d. What method of application?

True neuralgia, as defined by Anstie, is, without doubt, most successfully treated by galvanism; while hysterical neuralgia and the so-called pseudo-neuralgias, which are simply forms of pain, occupying certain areas, and running seemingly in the direction of certain nerves, yield most readily to faradism.

More specifically, the effects of *pressure* in the various forms of neuralgia are exceedingly useful as guiding symptoms, indicating the proper current. I do not, by any means, lay it down as a universal law, but it will certainly be found that in the great majority of cases of neuralgia, where firm pressure over the affected nerves aggravates the pain, the galvanic current is indicated; while the faradic current has the greater power to relieve, when such pressure does not cause an increase of pain.

In the class of cases called sometimes hysterical hyperæsthesiæ, it is well known that firm and prolonged pressure affords marked relief, while pressure, superficially applied, increases the distress. The faradic current is here infinitely superior to the galvanic. The following case, one of the first that led me to note the significance of this symptom of sensitiveness to pressure, is a good illustration of this general statement.

Case I.—Mrs. S., aged about 60, had for several years suffered at frequent intervals, from a most severe form of facial neuralgia for which she had failed to obtain permanent relief. The associated symptoms were nausea, vomiting, vertigo, and occasionally the pains were so severe as to cause complete loss of consciousness. The pain seemed to start from a point near the right ala of the nose, and thence radiated in all directions—to the temples, eyes, ears and neck. These paroxysms occurred every few days, with occasional remis-

sions of two or three weeks, and lasted from two to six and eight hours. Notwithstanding the severity of the attacks, the affected surface was not at all sensitive to the touch; on the contrary, pressure afforded considerable relief. A mild faradic current, not sufficiently strong to cause decided muscular contractions, was applied (the fingers being used as electrodes) to the point where the pain took its rise, and resulted in an immediate alleviation of pain. The patient was in this way treated from one to three times a week—according as it was convenient—for two months, during which time she had but two slight attacks. From this time, she remained entirely free from them for six months, when they began to recur in a modified form. The same method of treatment was resumed and effectually dissipated all remaining tendency to a recurrence. For three years she has not suffered. In this case, previous to resorting to the faradic, a mild galvanic current was applied, but with no result other than to increase the pain. This experience was repeated, conclusively proving the inadaptability of galvanism to the case.

As a fair example on the other hand of the value of galvanism, I record the following, which has just passed from under my care.

Case II.—Mr. L., aged 28, of slender build and delicate constitution, was sent to me by Dr. Juan B. de Landeta, of New York. As an employee of the Western Union Telegraph Company, his main labor was in the use of the pen; but he suffered so acutely in his right arm from severe darting and aching pains, that it was feared he would be unable to retain his position. The symptoms manifested themselves in a mild form some six months previously, and had gradually increased in severity, notwithstanding the efforts that had been made to relieve him. Upon examination, I found considerable muscular atrophy just below the spine of the scapula, and extending some distance along the middle and lower border of the deltoid muscle. There were three distinct areas, where pain was pretty constant, viz.: the point where the atrophy began, just below the spine of the scapula; near the external condyle at the elbow; and at the wrist. At these points, pressure always caused more or less pain, and at times this sensitiveness extended the whole length of the arm. Placing the positive pole just above the first point of tenderness on the upper arm, and the negative immediately below the second tender spot at the elbow, I gradually, but without interruption, increased the number of cells included in the

circuit, from five to eighteen. After the current had reached this maximum of strength, it was allowed to pass steadily for two minutes, and then the number of cells gradually decreased to one. Removing the electrodes, I now placed the positive pole immediately above the second area of pain, near the elbow, and the negative just below the third point of tenderness at the wrist, and gradually included cells in the circuit to the number of twelve, and after two minutes, decreased the current strength as before. The whole length of the seance, including the process of increasing and decreasing the current was but eight minutes. Improvement was manifest from the first application, and at the present time, after twelve applications administered during the course of a month, the cure is complete.

I have been thus minute in detail since this method of application may be taken as typical of very many that are called for in neuralgic cases. There is no special law as to the number of cells to be used; but it is a very important general law, that the strength of current should not be carried to the point of pain, and as there are such wide degrees of susceptibility among individuals, the current strength necessary, must be determined anew in every case by the physician.

In this latter case, the applications were stabile throughout, for the reason that from the beginning there was manifest improvement, and there was, therefore, no good reason for changing the method. If, however, there had been no benefit, or but very slight, it would have been proper to have used the labile method, thus bringing the whole length of the arm successively in contact with the electrodes. In pursuing this course, the sponges must be pressed with great firmness on the skin, and drawn with a slow, steady and equal motion; for it will be remembered that every change in the position of the poles causes some disturbance of the current analagous to an absolute interruption, and is therefore often contra-indicated in some irritable conditions; and in the case just cited, would, in all probability, not have proved nearly so efficacious as the stabile method.

Chorea (St. Vitus dance).—I know of no disease in which there are stronger indications for the use of electricity than in cases of chorea that have assumed a chronic form. As is

well known, the majority of cases occurring in children recover either spontaneously, if proper care is exercised, or through the administration of some nerve tonic; and the test of the obstinacy with which this disease will resist treatment is not so much the severity of the chronic disturbance as the length of time it has continued.

We may meet simply, a slight twitching of the corner of the mouth that has lasted for years and proven itself absolutely incurable; while the most violent paroxysms, associated with frothing at the mouth and inability to articulate, may, under treatment, disappear in a few weeks. It is the readiness with which the ordinary case of chorea tends to recover, quite as much as the efficiency of remedies, that has given such repute in this condition to various medicines, such as iron, zinc, arsenic, strychnia, etc. The surprising lack of unanimity of opinion concerning the treatment of this disease confirms more than anything else this belief in its general tendency to recovery. When, however, a case (be the movements general or local) has continued without amelioration for several months, it may be considered chronic, and will be more or less difficult to cure. In such a case, I regard electricity, in some form, far superior to any and all other methods of treatment, and in other places have reported many recoveries.

The two methods of treatment that in my hands have been most efficacious are, general faradization and central galvanization, at times associated with local galvanization. While the ascending galvanic current is to be preferred in the treatment of chorea located in a single limb or group of muscles, I very confidently assert that general faradization is far more efficacious when the disturbances are general. If the applications are skillfully made, and the seances carefully graduated, it may be made to act both as a tonic and as a sedative to allay irritability and induce sleep. The following case has been already reported, but as it illustrates more completely the above statement than any more recent example, I venture to give it again.

Case III.—Master N., aged 10, was sent to me by Dr. J. O. Farrington, of New York. Some two months previous

to this time, certain abnormal movements, such as starting suddenly to his feet, throwing out a hand or a foot, etc., were observed by the teacher of the boy. Two weeks subsequently, the patient was seized with well marked choreic symptoms of the right side of the body, and in two days the disturbance extended to the opposite side. So constant and violent were the movements of his arms and legs that it was impossible to keep him on a bed or sofa. It was necessary to place him on the carpet, surrounded by inflated rubber bags. Intelligence seemed to be perfect, but the power of speech was lost, and the sufferer made known his wants by impatient cries and ill-directed motions. Sleep was impossible without the nightly administration of an opiate. Contrary to judgment, but by suggestion, I began treatment by the use of a mild galvanic current, directed to the base of the brain and the spinal tract; but this method served only to aggravate the child's condition. I then resorted to the faradic current by the method of general faradization: but so violent were the involuntary movements in the limbs and body of the patient, that it was with difficulty that he could be held in a sitting posture, and his feet kept on the copper plate to which the negative pole was attached. The applications were *general*, every portion of the body, from the head to the feet, being influenced on each occasion. Improvement appeared from the very first. He was at once enabled to sleep soundly, although the opiate was reduced one-third, and after the fourth application, it was dispensed with altogether. In the course of three weeks, during which time fifteen applications were given, the case was so far improved that the patient was able to utter distinctly, words and sentences. The choreic symptoms were so much diminished, that the boy could sit quietly and alone, and during an application was able to command the movements of his body and feet. Improvement continued during the administration of a few more applications, when the child was taken to the sea shore, where in two weeks he quite recovered.

After having enjoyed excellent health for a year and a half, he suffered from a second attack. He was immediately submitted to the influence of general faradization, and recovered more rapidly than before. It is now several years since this last attack, without symptom of a relapse.

Hysteria.—It is generally acknowledged that the various conditions associated with hysteria, such as paralysis, contractures, anæsthesia and hyperæsthesia, are more or less

amenable to electrical treatment, either general or local. Hysterical hiccough or cough, aphonia and incontinence of urine, frequently call for localized electrization, although these symptoms may yield under general faradization or central galvanization, no special attention being given to the affected parts.

It is not so well understood, however, that the general disease itself calls for this form of treatment quite uniformly, and in many cases is speedily and permanently benefited. As the disease is constitutional, constitutional treatment is called for; hence general faradization and central galvanization are the methods chiefly indicated. The very remarkable results that may follow this method of treatment are illustrated by the following:

Case IV.—Mrs. A., aged 30, was brought to me by her friends for the relief of an hysterical condition, unusually persistent and varied in its manifestations. She was the mother of four children, and until within three years, had enjoyed a fa r degree of health. She complained of intense neuralgic pains, shifting anæsthesia, indigestion and flatulence, associated with the most profound mental depression, and prolonged paroxysms of violent weeping. She was frequently subject also to violent attacks of screaming, followed by a condition of utter exhaustion, in which the pulse was barely perceptible. There were many other minor points of interest, but the above are sufficient to give an idea of the lamentable state into which this patient had fallen; and taking into consideration the fact that for three years there had been no amelioration, but a slow and steady exaggeration of every symptom, the results of treatment were highly satisfactory. In attempting general faradization, it was found that the patient was so exceedingly sensitive, that the very slightest current was quite unendurable. After several attempts it was abandoned, and central galvanization substituted. A current from six Siemens and Halske's cells excited the metallic taste, increased the flow of saliva, and caused gentle pricking, but no unpleasant effects whatever. In less than two weeks, she had, to a considerable degree, overcome the tendency to depression and weeping, and had not once given way to the disagreeable habit of screaming. At this stage, upon attempting general faradization, it was found that she was able to endure it without discomfort, and it was therefore

repeated at alternate seances. Every symptom, including the neuralgia and digestive disorder, improved rapidly, and the patient was discharged within two months, approximately recovered.

Such rapid cures in cases of great severity and long duration are, of course, not every day occurrences; but I have reported a number of cases equally interesting, and notably, one on page 440 of our larger work,* which was, in its details, an almost exact counterpart of the one just related.

Spinal Irritation.—Of the many affections allied to hysteria, spinal irritation is one of the most prominent, and is often associated with it. When it is simply a lesser symptom of hysteria or nervous exhaustion, it cannot claim a distinct nomenclature, and does not call for special consideration in treatment. When, however, the spinal tenderness and the symptoms that directly flow from it overshadow other accompanying conditions, it claims a place as a distinct disease, and should be treated accordingly. Spinal galvanization, with labile currents in a descending direction, rarely fails to effect a cure. Indeed, there is hardly a disease in which there is so little doubt as to the treatment indicated, and the probable benefit to be derived.

Case V.—Miss —— was sent to me by Drs. A. E. M. Purdy and F. P. Kinnicutt, of New York, and also by Dr. P. C. Barker, of Morristown, N. J. This young lady was of an exceedingly delicate and sensitive organization, and for a number of years had suffered from spinal irritation, with various accompanying symptoms. The tenderness along the spine was almost continuous, and firm pressure in several special areas caused great pain. The patient complained of palpitation and *breathlessness*, weakness with low spirits and other distressing symptoms which she described as "sinking" feelings—an expression which is sufficiently suggestive to those who have had much experience in this class of cases. There was occasional nausea, with flatulence and loss of appetite, together with sharp neuralgic pains. Very slight exertion caused utter exhaustion. Treatment by the method mentioned above was immediately begun, and with some variation continued for three months. This variation consisted in alternating, just so soon as there began to be a decided

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diminution of the spinal tenderness, general faradization with spinal galvanization. Amendment began to show itself in a few weeks, and when at the opening of summer, the patient left for the country, she had gained immensely in strength, and was, in the main, relieved of the annoying symptoms that had so long distressed her. Improvement steadily continued, and she is now enjoying as vigorous a degree of health as at any previous time of her life.

Epilepsy.—It would be too much to say that electrization constitutes an essential or even recognized method of treatment in epilepsy. It has been used successfully to oppose certain symptoms which occasionally accompany it, such as tremors, paresis, contractures, etc.; and in slight epileptoid seizures, good results come from stimulation of the peripheral nerves by means of the faradic current.

I have, however, for a long time believed that electricity, either alone or in conjunction with approved methods of treatment, might be more directly efficient in the treatment of this intractable disease. The exact measure of benefit that we may hope to derive from its use, I do not pretend to say. My observations are simply suggestive, and in a late number of the *New York Medical Record* (April 6, 1878,) were given in some detail.

Case VI.—In one case, that of a child, bromide of potassium was at first given, and pushed until the face was covered with acne. Under this treatment she improved very decidedly through several weeks, and then rather quickly relapsed. I then submitted her to central galvanization and general faradization, alternating the methods and allowing a day to intervene between each application. She improved much less rapidly than under the bromide, but this improvement was retained, and in eighteen weeks from the beginning of treatment, she had quite recovered, as proven by the fact that she has now gone four years without an attack.

Case VII.—In the second case, no bromide was given by me, but it had been used ineffectually in the past. The man was under treatment two months. The attacks, which had been occurring twice a week, gradually decreased in frequency and severity, until the cessation of treatment. Five months subsequently, the patient called at my office looking well, and stating that he had had no further paroxysm.

Case VIII.—The third case was an unmarried lady, aged

30. She seemed a confirmed epileptic, since for five years she had suffered from the attacks with increasing severity. Dr. Geo. J. Fisher, of Sing Sing, New York, had the case in hand for a number of years, and had given it thorough and judicious treatment. The bromides of potassium and sodium, of each ten grains, three times a day, she had taken for a long time During the month previous, she had three attacks, and was feeling certain premonitions when I submitted her to the additional treatment by electricity. I did not feel justified in discontinuing medicine, and therefore substituted the following formula:

℞. Potassæ bicarbonatis.....ʒij.
Ammonii bromidi.....ʒvij.
Potass. iodidi.....ʒiij.
Potass. bromidi.....ʒiij.
Infus. calumbæ (British).....⊙j.
M.—S. Teaspoonful three times a day.

The patient was exceedingly nervous and despondent, and it was evident, that if in no other way, electricity might prove of service as an adjunct to allay irritability, and as a general tonic. I treated her every other day for three months, alternating central galvanization with general faradization. I then gave her an interval of rest for three months, during which time she had an attack occurring about six months from the last. After a second three months' treatment, another interval of rest was allowed, followed by a third series of treatment, continued through three months.

She has not had a second attack, and as nearly two years have passed with but one seizure, we are hopeful of ultimate results. It is worthy of note that after the two methods of treatment were combined, the bromic acne was hardly perceptible.

Exophthalmic Goitre.—Graves' disease, which is supposed to be due to ennervation of the sympathetic, is almost invariably benefited by galvanization. It is to be regretted that the remedy is not more uniformly resorted to in this condition. From time to time, we see in our medical journals records of cases that have been more or less relieved in this way; and abroad, among others, both Ziemssen and Wulfeld have reported many successes. During the past few years, I have treated quite a number of such cases, and while the enlargement of the thyroid gland and the exophthalmia does

not by any means always disappear, the violent palpitation which constitutes the most distressing symptom is decidedly and permanently alleviated. My method of treatment is to place one pole (the positive) just above the sixth cervical vertebra, and the other in the auriculo-maxillary fossa, gradually drawing it along the inner border of the sterno-cleido-mastoid muscle to its lower end. A mild current (from five to ten cells) should be used here, and for a short time only, say two to three minutes. Removing now the negative pole to the region of the solar plexus, the number of cells may be increased to twenty, and sometimes even thirty, and the current allowed to pass for several additional moments.

Torticollis (Wry Neck).—This disease, after it has become thoroughly established, is exceedingly obstinate, and frequently, if not generally, resists every form of treatment, surgical included. In its earlier stages, however, it may be cured by electrical treatment alone. The following case illustrates its efficiency:

Case IX.—Miss B., aged 20, was directed to me by Dr. W. W. Jones, of New York. A month previous, she caught cold in the neck from a draught of air while at a concert. For a week subsequently, she would, every few moments, involuntarily turn her head to the right, until finally it became fixed in this position. From the fact that she was not prevented from turning her head, simply from pain, and that when it was brought to the proper position by faradizing the muscles, no pain was caused, we concluded that we had *not* to deal with a common stiff neck resulting from rheumatism, but with tonic spasm of a nervous character. The muscles of the neck on the side towards which the head was turned, had appreciably atrophied, while on the opposite side they were hard and enlarged. These latter muscles exhibited, as usual, increased electro-muscular contractility, while on the right side, towards which the head was turned, contractility was diminished. The above phenomena represent fairly, I think, what are usually observed in the earlier stages of the disease, and the following treatment is typical of what I have successfully employed in a number of similar cases. At each sitting, the muscles of the left side (those that were large and prominent) were submitted to mild galvanization for a moment or so, while the contracted sterno-cleido-mastoid muscle of the right side, towards which the head was inclined,

was faradized with sufficient force to cause a relaxation of muscular fibre, allowing the head to turn gradually to its natural position. Upon removing the electrodes after the current had passed several minutes, the head would retain its position without the conscious aid of the patient's will. After an interval of some five minutes, it would again turn to the right. The patient rapidly improved, and after two months of treatment, had quite recovered.

Diseases of the Organs of Digestion (Nervous Dyspepsia).—The results obtained by general faradization, sometimes supplemented by central galvanization, in the temporary and permanent relief of nervous dyspepsia, are often quite remarkable. In this, and in fact in most of the ordinary difficulties associated with the digestive tract, the faradic current is more especially indicated; and one reason is, that it acts more vigorously on the muscles than the galvanic, and therefore produces more powerful mechanical effects, with passive exercise of all the deep tissues. In most cases of nervous dyspepsia, general faradization relieves, not so much by virtue of its influence on the stomach (although it directly affects it), as by its influence on the nervous condition of which the dyspepsia is a symptom.

Constipation and Nausea.—Both the constipation and nausea that are so frequently associated with, and constitute a part of nervous dyspepsia, are disposed to yield rapidly and permanently to electrization. In claiming for this method of treatment peculiar powers in these digestive disorders, it must be borne in mind that reference is made only to that variety dependent upon a special nervous diathesis. In some forms of dyspepsia and constipation, electricity either fails to give great relief, or does so only after the exercise of much patience, or as an adjunct to other remedies. In atonic conditions of these, as well as of other organs, electricity is strongly indicated, and seldom fails to be of more or less service. The following was, in its symptoms, more or less characteristic of those dyspeptic conditions in which electricity achieves its best results.

Case X.—Mr. A., aged 35, had suffered from digestive disorder for several years. He appeared in good flesh, but every movement indicated a highly nervous organization.

When entirely free from all worry and excitement, he suffered comparatively little, and could take food with some degree of comfort; but following even slight mental disturbance, he experienced a feeling of heaviness and pain after meals, more or less nausea and vomiting, flatulence with enormous distension of the bowels, together with the most obstinate constipation. Nothing but complete mental rest would relieve these symptoms more than partially and temporarily; but it was an interesting fact, and one, I think, very rarely observed, that a fifteen-grains dose of hydrate of chloral would uniformly result in at least one free evacuation, and a very great diminution for the time being of the flatulence and distension.

As in this case almost every remedy conceivably appropriate had been laid under contribution, it only remained for me to test the efficacy of electrization. On testing sensation by the faradic current (which in a diagnostic way is far more useful in this disease than the galvanic), it was found that, when applied very mildly, it caused a peculiar and unpleasant sensation in the epigastric region; and yet pressure alone was not disagreeable. In passing the electrode down the spine, a "sinking" sensation was experienced; and when one electrode was applied to the cilio-spinal centre, a decided feeling of nausea followed. These phenomena I regard of importance, since they are very frequently met with in the various manifestations of nervous dyspepsia.

The patient was at once submitted to general faradization in its most thorough form. The immediate result of the application was considerable faintness and nausea, which did not pass entirely off for over an hour. Two days subsequently, when seen again, the patient reported a most remarkable change. The bowels had moved freely, passing also a great quantity of gas, and resulting in an almost complete disappearance of the distension. These symptoms had, however, returned in somewhat less force, when he presented himself to renew the treatment. A second application resulted in similar relief, followed by a return of symptoms, but of much less severity than usual; and in this way the case progressed until after having received twenty-five applications, the tendency to these recurrences seemed to be almost entirely overcome.

Sequelæ of Acute Diseases.—Electricity is often directly and rapidly efficacious in dissipating the effects that follow certain acute diseases. My own experience in this direction

has been confined mostly to the persistent symptoms that frequently result from attacks of cerebro-spinal meningitis, diphtheria and intermittent fever. For the relief of the varied symptoms that follow the first-named disorder, *cerebro-spinal meningitis*, I rely almost alone on central and spinal galvanization. In the paralysis that follows *diphtheria*—whether of the soft palate, vocal cords or extremities—faradization will, as a rule, accomplish everything, although I have met with cases of such severity as to demand the persistent use of the galvanic current. In one notable case, such a profound impression had been made on the sympathetic nervous system, that on every extra exertion, the pulse would rise to 160, and as suddenly sink to less than 40 beats to the minute. In this case, general faradization speedily effected a revolution in the condition of the patient. In *chronic cases of intermittent fever*,, when quinine and other tonics have failed to entirely arrest the symptoms, and to build up the system, I have seen undoubted benefit arise from the use of general faradization. It is not claimed that this treatment has any special or rather specific effect on the malarial poison; but that, by virtue of its constitutional tonic powers, and through its beneficial influence over the processes of secretion and excretion, it gives tone and strength.

Diseases of Women.—Almost all the diseases peculiar to women have been treated by electricity, and if the many remarkable results recorded could be accepted as typical of the ordinary effects of electrization, it might be almost considered a panacea for this class of cases. Engorgements and flexions, prolapsus and atrophy, have all, in turn, been treated with more or less success; but in the majority of cases of engorgements and displacements, at least, this success has followed, when the electric treatment has supplemented, and not superseded, other and more thoroughly approved methods of treatment. The rationale of whatever success may be attributed to electrization in certain female diseases, is, at all events, sufficiently clear.

Prolapsus Uteri.—If, in prolapsus, benefit accrues, it is due, in part, to the chemical and mechanical effects of the current on the structure of the uterus, and in part to the tonic effects on the ligaments and vaginal walls.

Engorgements.—The contracting influence of electricity over involuntary muscular tissue, is a strong physiological argument in favor of the use of this remedy in uterine engorgements, and its well-attested power to improve nutrition and develop muscle, recomends its use in uterine atrophy.

Undeveloped Uterus.—In two cases of this class that were examined, both before and after treatment—one by Dr. Fordyce Barker, the other by Dr. T. Addis Emmet—the results of applications directly to the organ were very decided.

Cases XI and XII.—Miss H., aged 35, had suffered from lifelong irregularity of menstruation, accompanied by much pain. The case was carefully examined by Dr. Barker, and his measurement, which I subsequently verified, found the uterus to be but one and three-fourths of an inch in length. After thirty intra-uterine and intra-vaginal applications with the faradic current, extending through four months, a second measurement by Dr. Barker indicated an increase of one-half an inch in the length of the organ. Along with this increase in size, the menstruation became more regular, and was attended with but little pain.

In the case examined by Dr. Emmet, substantially similar results were obtained as regards development. The associated symptoms were amenorrhœa with profound mental depression. As the uterus developed, the menses returned, and the condition of mind improved.

The diseases of women, however, for which electricity has been most frequent successfully used, are amenorrhœa, dysmenorrhœa and menorrhagia.

Amenorrhœa.—In offering a favorable prognosis in any given case of amenorrhœa, it is assumed that no serious pathological condition exists. In cases associated with, and more or less dependent on, anæmia or chlorosis or nervous exhaustion, the important thing is not to specially stimulate the uterus, but to change the constitutional condition, which is the cause of the suppressed function. Accordingly, the treatment by general faradization, combined with such internal medication as may be specially called for, is generally sufficient without applications directly to the uterus.

In those cases that call for internal applications, one pole may be applied to the os, by means of an insulated cup-shaped electrode, or to the interior of the uterus by the intra-

uterine electrode, while the other is applied to the abdomen above the pubes, and alternately over either ovary.

Dysmenorrhœa.—In neuralgic dysmenorrhœa, the prognosis is quite uniformly good. Indeed, the results are frequently most brilliant, and follow after years of ineffectual efforts by other means, to relieve the periodical seasons of distress. In my own experience, I have observed successes follow various methods of treatment with both currents. As a rule, however, the galvanic is far more effective than the faradic in affording relief, although in many cases I have found it useful to alternate the two. Internal applications also must frequently be resorted to; yet some of the most striking results come from simple external applications.

Case VIII.—In the case of a young lady, aged 22, sent to me by Dr. George A. Peters, of New York, menstruation had for years been attended with severe pain. No examination was made; neither were any of the applications internal. General faradization alternated with external localized galvanization in the interval between the periods, resulted in an entirely painless menstruation.

From among many unpublished cases, I desire to transcribe one that is still under observation, for the reason that it presents points of interest that are seldom found.

Case XIV.—Mrs. —, aged 30, was sent to me for electrical treatment by Drs. John T. Metcalfe and T. G. Thomas. The patient was large and well nourished, and presented every appearance of one in vigorous health; yet there had been in the past a very considerable derangement of her nervous equilibrium. There was usually only slight pain preceding the onset of menstruation, increasing a little as it made its appearance. In about forty-eight hours, the distress became very great, and continued without abatement, for several days up to the cessation of the catamenia. Careful examination by Dr. Thomas revealed no mechanical constriction, and it was suggested that the probable cause was a tonic spasmodic contraction of the os uteri, resulting from reflex irritability. This condition of affairs had been almost constant for seven years, notwithstanding varied methods of treatment, and the propriety of incising the cervix had been seriously considered.

I will briefly describe the method of treatment substantially followed out, and then refer to the results.

I alternated the use of the faradic and galvanic currents, administering four applications a week. External treatment was alone employed, because of the disinclination of the patient to submit to internal applications. The faradic current was used by the method of general faradization—each seance being ended by a purely local application.

In using the galvanic current, the first half of a seance of eight minutes was devoted to galvanization of the whole length of the spine by the labile method, the operation being concluded by a local stabile application. Beginning at each seance, with a current from ten ordinary zinc-carbon elements, the number was gradually increased to twenty-four, and then as gradually decreased. Treatment was begun on *May* 23, 1878. On *June* 3d, the menses appeared, and although by no means painless, far less distress was experienced than usual. The courses ceasing, treatment was continued up to *June* 29. Their second appearance was attended by absolutely no pain worthy of mention.

The patient now left the city for the season, and in due course the menses appeared for the third time since the beginning of treatment, and unattended with any sense of discomfort. Attending their fourth appearance, however, there was very decided pain, and on *Sept.* 11th, on her return from the country, the electricity was resumed. After a few applications of the galvanic current, pains, supposed to be premonitory of menstruation, were felt, and so increased, that Dr. Metcalfe was called in, and found that the patient was suffering from a miscarriage.

Having recovered from this mishap, electricity was again attempted, and has been followed by a gradual improvement to the present time of writing. Since the expulsion of the embryo, there has been more or less discharge of membrane at each period. This has somewhat complicated the case, and although it is still under observation, a complete recovery seems assured.

Connected with this case, two important and interesting questions arise:

1st. Was the electrical treatment in any way efficacious in rendering conception possible? When it is considered that in seven years' pregnancy had not occurred, while conception took place soon after the galvanic treatment, which had been so effective in relieving the pain and its probable causation, viz., spasmodic contraction of the os uteri, it is not difficult to believe that its agency was very great.

The second question relates to the possibility of this miscarriage being in any way due to the treatment. In the first place, it is well known to every electro-therapeutist (although the contrary opinion is quite prevalent) that it is exceedingly difficult, and, *as a rule*, impossible, to cause an abortion by any ordinary external application of electricity—external or internal. In this statement, intra-uterine applications are, of course, not included, nor those susceptible cases with a tendency to abort upon the reception of any strong or sudden impression of mind or body. I have treated women in all stages of pregnancy for various nervous difficulties, and have never yet seen harm result. To produce any mechanical or reflex effects sufficient to detach the fœtal connection, necessitates a degree of current strength not ordinarily required in therapeutics. Again, the severe illness of a near relative had taxed our patient to an extent sufficient in itself to account for a result that would have been gladly avoided.

Menorrhagia.—The cases of menorrhagia are so diverse, that it is manifestly impossible to intelligently prognosticate its behavior under any method of treatment, without some knowledge of its origin. Now it is well recognized, that whenever we have a case of this kind, it either depends on some cause seated in the constitution generally, or on some local sexual disorder. An excessive flow at the menstrual period may be associated with granular degeneration of the kidney. We find in this condition, an altered state of the blood; it becomes attenuated, and readily escapes from the engorged vessels. Under these circumstances, there can, of course, be no indication for the use of electricity.

When, however, an excessive flow occurs (as it does not infrequently, and especially towards the decline of sexual activity), in consequence of inactivity of the liver, and constipation, associated with a degree of nervous exhaustion, the indications are self-evident, and are often excellently met by the powerful constitutional tonic effects of general faradization. From such local causes of menorrhagia, as misplacements, intra-uterine morbid growths, and certain affections of the ovaries, electrical applications are ordinarily of doubtful efficacy.

The following case is of interest, on account both of the persistency and severity of its symptoms, and its uninterrupted progress toward complete recovery under the treatment adopted. Powerfully illustrative as it is of the efficiency of electrical treatment in certain hæmorrhages, it would not commend itself so favorably, to my own mind, at least, if it were unsupported by more extended clinical observation, and without the rationale of the effects of the method was susceptible of explanation. I have seen, not only uterine, but other forms of hæmorrhage—especially from the rectum—modified and checked by this form of treatment, in quite a number of instances.

Case XV.—Mrs. B., aged 46, consulted me in consequence of severe hæmorrhage to which she was periodically subjected. Five years prior, she observed some slight increase in the menstrual flow. It became increasingly abundant, until, in the course of a year, the loss of blood at each menstrual epoch was frightful. For the first day or two only, was the flow thus alarmingly copious, but its immediate effects were to render her completely colorless and almost pulseless. The flow would now rapidly become less, but for two or three weeks there was a very slight although constant discharge of bright arterial blood. The courses did not appear with normal regularity, an interval of six weeks to two months ordinarily occurring. It is quite evident that if menstruation had occurred every four weeks, the patient could hardly have survived for so long a time her repeated depletions; and, as it was, she was just enabled, by the aid of a good appetite and vigorous digestion, to regain a measure of strength and color before the recurrence of her trouble. I began treatment in the decline of one of these hæmorrhages; and for the relief of the persistent insomnia resulting from her anæmic condition, and the pain in her legs, general faradization was administered on alternate days. It aided very greatly in inducing sleep and relieving pain, and markedly hastened returning strength.

Shortly after these tentative applications were begun, I met at the house of the patient, Dr. W. G. Alling, of New Haven, Conn., under whose care she had been a short time before, and from whom she had received continued and judicious treatment, both constitutional and local, but without decided relief. Dr. Alling's examinations had found the uterus to be three and one-half inches in depth and slightly retroverted. When the probe was carried into the cavity at

the first examination, slight hæmorrhage followed its withdrawal, and a small fungoid mass came away. Further examination revealed considerable fungoid degeneration of the mucous membrane. I proposed alternating the general treatment with intra-vaginal and mild intra-uterine applications. This method of procedure was repeated up to the day of menstruation—the patient, in the meanwhile, having regained, with far more than ordinary rapidity, her color and strength. The flow was considerably more profuse than normal, but could not be compared in severity with those that had previously occurred. In ten days, the flow ceased, and treatment was continued until the return of the catamenia, when a still greater improvement was evident. For three months, this treatment was kept up, when the patient left the city for the summer, with the feeling that her recovery was an assured, if not an accomplished fact. Four years have since elapsed, but there has never been a recurrence of these hæmorrhages; and, moreover, the patient has been ever since, and is still, in the enjoyment of robust health.

Paralysis.—In hemiplegia, due to brain lesion, two periods relating to electrical treatment have been designated. 1st, A week or two after the attack; 2d, A month or six weeks from the seizure. In the first period, a mild galvanic current is applied through the head as nearly as possible to the seat of the effusion, and allowed to pass two or three minutes—extreme care being, of course, exercised in increasing and decreasing the current strength without interruption. By thus acting slightly on the cerebral circulation, it is claimed that the absorption of the clot will be hastened. In an experience founded upon more than one hundred cases of hemiplegia, I am pretty well convinced that nature is not materially assisted in her efforts to absorb a brain clot by any direct method of treatment. Considering the extraordinary power of the galvanic current to promote absorption, as shown in numberless cases of electrolysis of tumors, it does, indeed, seem plausible, that here also similar effects might result. The extreme caution, however, that should be observed in galvanizing the brain, because of the danger of too decidedly disturbing the cerebral circulation (the supposed factor influencing the absorptive process), necessitates a current so mild as to be practically useless for this

purpose. In the few cases where undoubted and marked results followed galvanization of the brain, I should be inclined to ascribe the paralysis to some cause other than effusion, due perhaps to stasis in the vessels, sufficient to produce decided pressure. I believe, however, that much good may be accomplished in many cases of hemiplegia due to effusion, by general faradization, supplemented (according to the indications afforded by the condition of electro-muscular contractility) by systematic galvanization or faradization of the paralyzed members. These methods of procedure belong to the second period, and may often be kept up with advantage for several months.

Infantile Paralysis.—The use of electricity in infantile paralysis is indispensable, and the results that follow are often most gratifying, and even brilliant. In offering any prognosis, we must be most careful to distinguish between the so-called essential paralysis of childhood, with which organic changes are invariably associated, and a much less serious disorder, mostly peripheral, and due to reflex influences. In our prognosis, we depend very much on the degree of muscular reaction to the current.

If the farado-muscular contractility is entirely abolished, while yet there remains distinct galvano-muscular contractions, we have good grounds for believing that much may be accomplished by persistent treatment.

If the galvano-muscular contractility is also lost, the case is generally hopeless; for with the absence of this reaction, we expect to find muscular atrophy and degeneration.

In the treatment of infantile paralysis, we are guided in our selection of the proper current by the phenomena of muscular contractility. If the muscles respond with considerable readiness to the faradic current, I begin its use immediately, and seldom find it necessary to resort to galvanism. If the faradic current induces but very slight contractions, I alternate its use with mild galvanic currents. If there is no response to faradism, the galvanic current is called for, and should be used until there is some indication of farado-muscular contractility, when the faradic current should be gradually substituted. These very general rules must not be re-

lied upon as *absolute* guides, but they are about as explicit as can be given here, and will be found most valuable aids in practice.

Peripheral Paralysis.—Of the many forms of peripheral paralysis, facial is one of the most common and important, and in passing we will allude to it as an example of this variety. The diagnosis is made easy, not only because in paralysis of the seventh pair of central origin, the eye can be closed, while if the cause is peripheral, the orbicularis palpebrarum muscle is paralyzed, preventing complete closure of the lids; but from the further fact that when the cause is central, the electro-muscular contractility is unimpaired, while if the cause is peripheral, the muscles refuse to respond to the faradic current—although galvano-contractility may be normal, or even increased. The prognosis of facial paralysis is, in general, exceedingly favorable, the differential indications for the use of the currents being much the same as in cases of infantile paralysis.

Anæsthesia.—Anæsthesia, although merely a symptom—as varied in its manifestations as there are nerve ramifications, and grave or trivial, according to its cause—is, in its prognosis (waiving, for the moment, all questions of causation or pathology), usually very favorable. Even the numbness that is so often associated with paralysis of motion, is frequently very much alleviated by the electric brush, although the paralysis itself may not be at all susceptible of improvement, excepting so far as the dissipation of the numbness may afford relief.

Rheumatism.—At one time during the earlier history of faradization, few diseases were supposed to yield more readily to electricity than rheumatism. Much of the reliance that was placed upon it, was due, in part at least, to a strong tendency to speedy recovery in many acute and sub-acute cases of the articular variety of this disease. While an increased experience has very much modified my enthusiasm in regard to the efficacy of electricity in these cases, there can be no doubt that it is often of much service. In the acute and sub-acute forms, it is useful in relieving pain and reducing temperature; while in muscular rheumatism, it is often es

pecially effective; and yet cases are constantly met with of this last variety upon which the treatment makes so little impression as to seem almost valueless.

In order to get from electricity the best results, it will not do to rely on simple local applications. Rheumatism is of that class of constitutional diseases having special local manifestations, and therefore demands constitutional as well as local treatment. If this truth is borne in mind, far better results will reward our efforts, than if reliance is placed on applications simply to the part affected.

Miscellaneous Diseases.—In addition to the above, there are various other diseases and isolated symptoms where electricity is known to be of more or less value. Without attempting in detail to consider them in their electro-therapeutical relations, the following enumeration is given as a very general guide:

Paralysis Agitans.—In the treatment of this disease, the galvanic current is mainly indicated by the methods of central and spinal galvanization. Although a complete cure is rarely and perhaps never effected, excepting in those cases unassociated with serious organic lesion, yet the relief afforded is often very great after a combination of central and peripheral treatment. I have not infrequently seen violent tremors abated, and even completely arrested for several hours.

Progressive Locomotor Ataxy.—The proportion of cures of spinal sclerosis, under any method of treatment, is so very small, that when such an apparent result is recorded, it is quite natural to doubt the correctness of the diagnosis; yet I am well assured that cases have occasionally recovered, the symptoms of which pointed very positively in the direction of this disease. At all events, there is little doubt but what a large proportion of cases are benefited in some one or more of their symptoms. Electrical treatment almost invariably relieves the associated neuralgic pains and spasmodic contractions. The anæsthesia of the feet and legs which increases the incöordination of movement, may generally be very much decreased. The result of this is seen in increased steadiness of locomotion. Galvanization of the spine with

strong ascending currents, should be used, supplemented by faradization of the limbs. If the anæsthesia is profound, it may be treated with good effect by means of the metallic brush.

Progressive Muscular Atrophy.—The prognosis of this disease is not altogether hopeless, although few absolute recoveries can be expected. In cases where there are annoying spasmodic contractions, the galvanic current is generally effective in lessening the irritability; while by the additional use of faradization, nutrition not infrequently becomes so much improved, as to show appreciable increase in the size of the affected muscles.

Writer's Cramp.—Rest is here imperative. If in the earlier stages this is taken, and the proper electrical treatment administered, the symptoms in many cases yield readily enough. In the more advanced stages, it is not difficult to palliate the symptoms, but relapses are prone to occur, and a cure is exceedingly problematical. The faradic current should seldom, if ever, be used. As a rule, it does little good, and may do harm. Spinal and peripheral galvanization are the proper methods; but these also must be used with exceeding caution, for it is possible to greatly aggravate every symptom by applications that are too strong and irritating.

In *Lead Palsy*, farado-muscular contractility is lost. The treatment which is generally beneficial should consist in applications to the upper portion of the spine of a labile descending galvanic current. The affected muscles are most successfully treated by mild interrupted galvanic currents, although the faradic current is by no means useless. In *lead colic*, the pains may be subdued by galvanization of the cœliac plexus.

Angina Pectoris.—The treatment of angina pectoris by electricity is of but doubtful efficacy. The very few apparently successful results, serve only to show that exceptions prove the rule.

Dilatation of the Stomach, due not to organic lesion, but rather to atony, or paralysis of the muscular fibres of the stomach, is susceptible of great improvement under the action of electricity. The galvanic current should be first

used, by placing the positive pole on the point where the enlargement is most prominent, and the negative between the third and fourth dorsal vertebræ. This should be followed by a local application of the faradic current, sufficient in strength to produce contractions of the muscular walls of the dilated organ.

In *Incontinence of Urine* in children, it is claimed by some that galvanization of the lower part of the spine almost invariably brings about a radical cure. My own experience does not accord with this statement. In conjunction with other tonic remedies, it is undoubtedly an aid, but uniformly successful results can hardly be expected.

In both *Spermatorrhœa and Impotence*, electricity is not only strongly indicated, but is undoubtedly far more efficacious, taking the cases as we find them, than any and all other methods of treatment.

Galvanism is said to be beneficial when applied for the relief of *Opacities of the Vitreous Body*, and of *Occlusion of the Pupillar Aperture*, the result of iritis. It is claimed, also, that in *White Atrophy of the Optic Nerve*, consecutive to neuro-retinitis, the disease may be arrested by acting on the encephalic circulation through the cervical ganglia. In these conditions, however, I have had no experience.

Asthenopia.—This symptom, depending on an absolute or relative deficiency of energy in the muscles of accommodation, or of the internal recti, and accompanied by hyperæsthesia of the retina and of the ciliary nerves, may be very uniformly relieved by the faradic current. I will not say that galvanism is never serviceable here, but my experience, at least, seem to teach that the instances where faradism is not immeasurably superior to galvanism are so exceptional as practically to exclude the latter from consideration in the treatment of this condition.

According to the *London Lancet*, the latest researches of Claude Bernard led him to conclude that the very alphabet of the opinions which have been so largely built up by the labors of Pasteur is erroneous.

ART. III.—**The Corpuscular Elements of the Blood—their Variations and Enumerations.** By RICHARD H. LEMMON, M. D., Castle Craig, Campbell Co., Va.

My readers, I hope, will pardon me for recalling the following well known facts in hæmatology, when I say, that on their proper appreciation depends, in a great measure, the pathology and scientific diagnosis of the corpuscular diseases of the blood.

Blood contains two morphological elements, the red blood corpuscle or disk, and the white blood cell or leucocyte. The former preponderates in the proportion of three or four hundred to one of the latter. Further, the number of red disks contained in a cubic inch of recent blood is, according to the calculations of Vierordt and Welcker, and the more recent investigations of Malassez, about 78,000,000,000. The last named investigator found the above proportion uniform in the blood of the arterial system; but, in the venous system, he found in comparison, a slight excess of disks which somewhat favors the idea of their glandular formation.

The white cells (leucocytes) are developed at an early period of fœtal life, from materials existing in the plasma of the blood. Some, as I have just hinted, suppose they are the glandular products of the spleen and other ductless glands; but they are found in the embryon *before* the formation of these organs. Their function is not understood—the theory of their breaking up and forming nuclei for the red disks being entirely hypothetical.

The red blood disks are developed when the embryo is about $\frac{1}{10}''$ long, by genesis in the sanguineous blastema. Their development precedes that of the leucocytes—a fact which goes far to disprove the hypothesis that they are differentiated from the latter, even though it is true that the one is germinal matter, and the other is "formed material." To give some idea of their importance in the animal economy, it is only necessary to state that the function of hæmatosis is almost entirely carried on through their means—the red disks absorbing thirteen times as much oxygen as the plasma. Each disk, as it leaves the lung, freighted with its little cargo

of life-giving oxygen, and swiftly gliding to some special atom of the human frame by whom it is hungrily awaited, is only the integral unit of the 28,000,000,000,000 which exist in the blood of a healthy adult.

Biologists teach that the proportion of red disks in a given volume of blood bears a direct relation to the energy and muscular activity of the animal; and the recent investigations of Mennier, on convalescents, shows the existence of a definite ratio between the proportion of red disks and the amount of urea secreted. Accepting the maxim that all pathology is merely perverted physiology, and that the physiological function of these globules being manifestly so important, what a field for disease have we here! Were these corpuscles newly discovered, and the facts concerning them given to a modern pathologist, he would expect diseases corresponding with the following variations:

(1) *Of excess*, or increase in the number of corpuscles in a given volume of blood.

(2) *Of diminution*, the opposite condition from the above.

(3) *Of composition*, which embraces all changes which may occur, structural or chemical.

Nor would he be disappointed, for in

(a) *Plethora*, we have a diseased condition, caused by increase in the number of the red disks; (b) In anæmia, by diminution; And (c) We have a pathological condition due to an inherent change in each individual disk, either with or without numerical aberration, as in idiopathic or pernicious anæmia.

In addition to the above, there exists another diseased condition, *leucocythæmia*, whose morbid anatomy, so far as we know, depends upon a *proportionate* error between the red and white disks.

As the object of the writer is rather to impress the importance and possibility of an early and accurate diagnosis of the above diseases, after a manner which will shortly be described, it will suffice, in this connection, to give a brief summary of the above mentioned diseases. For more detailed information, the reader is referred to special works on hæmatology and practice.

(1) **Plethora.**—By plethora we mean a hypergenesis of the red blood disks, the other elements of the blood remaining unchanged. The condition must not be confounded with that relative increase, which exists in the latter stages of cholera, for instance; nor with the increase of mass which causes over repletion of the blood-vessels. It is a comparatively rare, yet important disease, and may only be diagnosed by determining whether the number of red disks, in a given volume of blood, much exceeds the normal average.

Concerning the etiology and treatment of plethora, little is known. It may only be said, as regards the former, that the forces which stand in a generic relation to the red disks, are, from some cause unknown, exaggerated. Beyond this, we know nothing, which is not surprising when we remember that all that is known of the origin of these disks is conjectural. Over-feeding and the use of alcohol have been offered as predisposing causes. And, at this point, it is proper to give the treatment, from whose efficacy is differentiated the causes just offered, viz.: regular exercise and restriction of diet, which is generally productive, if commenced in time, of a speedy return to the standard of health. *Apropos* of the above, it is true that mercury exerts a powerful influence in diminishing the proportion of red disks, though I know of no instance in which this property has been taken advantage of in the treatment of plethora.

(2) In our knowledge of **anæmia**, or more accurately *oligocythæmia*, we have an example of the great progress of modern pathology. It is a more common and far graver affection than the one we have just treated of. It is dependent for its pathology on an absolute diminution of the red disks. Some hold that the composition of the blood is altered in other particulars. It may be so, but the fact is not demonstrable by means either of chemistry or the microscope.

It will be convenient to classify the different manifestations of anæmia in respect to the causes by which they are produced, as follows:

(a) *Spoliative*, when they result from loss of blood, lymph, or any of the secretions or excretions. (For anæmia depend-

ing upon exhausting lymphorrhœa, see Virchow's *Pathologie et Thérapeutique Spéciales*.) Anæmia resulting from loss of blood, excessive secretion (as in lactation) and albuminuria, chronic diarrhœa and suppurations, is sufficiently familiar to all.

(b) *Inanitive*, or anæmia resulting from insufficient nourishment. This is also a common manifestation of the disease. Among the poor of our densely populated cities, many illustrations of this latter form may be met with.

(c) *Consumptive or destructive anæmia*, when the elements of the blood are consumed faster than they are manufactured; as in the case of the anæmia attending the continued fevers.

(d) *Neurotic or dystrophic anæmia*, as in chlorosis and allied affections. The usual causes of anæmia are here often absent, and we are forced to the very vague conclusion, that the nervous elements which preside over the formation of the red disks are, in some way, at fault. Uterine trouble often coexists, but this is by no means a constant factor. I recall a case I once had in which there was no disease of the uterus; none of the usual causes of anæmia were apparent, and the whole trouble seemingly depended on some fault of the nervous system. The patient's appetite was good, and she had a previously healthy record; yet the falling off of the red disks was most marked, and she also suffered much from palpitation, vertigo, and the usual symptoms of chlorosis. Another curious fact in connection with this case, was the ability of the patient to undergo, socially, a great amount of fatigue, such as visiting, dancing, etc.; when far less an amount of exercise encountered in the ordinary duties of life would give rise to the greatest prostration. The mental excitement here probably acted in the same way as alcohol and other stimulants often do in neurosal affections of the heart. Iron was tried and failed to do good, but under the use of phosphorus, in the form of the vitalized phosphates, great improvement was made. It is right to add that in this case there was no symptom of hysteria, or the least disturbance of the menstrual function.

Virchow thinks it probable that the etiology of this form of anæmia is an hereditary condition of the heart and aorta.

This view is scarcely receivable when we think of the large proportion of recoveries which we are able to bring about.

Among the unclassifiable causes of anæmia, we may mention the following: Surgical diseases of the alimentary canal, chronic metallic poisoning, various miasmata, disturbances of the heart and great vessels, and lastly, the different cachexiæ.

The treatment of anæmia may be briefly disposed of. It embraces, first, the removal of the causes as far as possible; next the use of chalybeates together with a nutritious diet, and gentle exercise in the open air. In desperate cases, transfusion of blood should be tried, preferably after the manner of Dr. Roussel. Quinine often acts happily in certain forms of the disease. In the treatment of class (d), I would further recommend the use of nerve tonics, especially phosphorus. A physician of much experience tells me that in the treatment of chlorosis, he has had excellent results from the use of the valerianate of iron, together with the bromide of potassium.

(3) *Variations of Composition.*—Corresponding to this variation, we have the disease known as *idiopathic* or *pernicious anæmia* (described by Biermer, Gusserow, Lebert and others). Here we have not only a diminution in the number, but a change in the structure of the red disks. The last mentioned factor of the disease has, I think, only recently been observed (see article in *London Lancet*, August, 1877, by G. Mackern).

It is necessary, in order to understand this change, to describe an experiment originated by Brücke. It is performed as follows: To a salt preparation of human blood, add a drop of a two per cent. solution of tannin. The red disks, which have been rendered star-shaped by the salt solution, very quickly assume an even contour; soon after, a sharply defined, yellowish green, roundish body is seen, either just within or at the margin of each corpuscle, sometimes even outside of it; the remainder of the disk becomes colorless. (See illustration *A* on institched page.) Brücke teaches that the yellowish green body, which he calls the "zooid," consists of the nucleus and the hæmoglobin, that it withdraws from the rest of the disk, or "œcoid," as he calls it, which it previously in-

habited, and collects itself around the nucleus, so as to form an independent individual. Whether this last be true, I cannot say, but the changes just described certainly take place under the above conditions; and also sometimes take place spontaneously in the blood of those suffering from idiopathic anæmia. By their study we may some day contribute to the pathology of the disease, concerning which, at present, little is known.

Biermer and others have maintained that a fatty heart was the invariable accompaniment of this disease. This opinion now-a-days is certainly untenable, both on account of the contrary testimony of others, and also in view of the fact that cases of the disease sometimes recover.

The preference of idiopathic anæmia for pregnant and puerperal women, was first observed by Lebert, and made known in the reports of the Medical Department of the Canton of Zurich, in 1853. This fact has since been confirmed by many other observers. The disease is often accompanied by a quick pulse, hot skin, and in a certain proportion of cases, by a hæmic murmur. Lebert supposes that there exists in this disease a special neurosis of the great sympathetic; he, however, has not yet observed any anatomical lesion.

For the treatment, the preparations of iron, arsenic and phosphorus have been recommended, together with change of air and cold baths.

I will add that this disease must not be confounded with the *bronzed skin disease*, of Addison, which he first described as an idiopathic anæmia. The pathology of the latter is dependent upon a diseased condition of the supra-renal capsules, whose function in health is to remove the cruorin of the blood. If this function is interfered with, the cruorin becomes converted into hæmatin, a secondary crystallizable compound, which acts as a slow blood poison. A part of this hæmatin is deposited in the rete mucosum, and a slow change in the coloring matter produces the characteristic appearance of the bronzed skin disease. The latter often causes grave anæmia, but the disease itself is no more anæmia than are the continued fevers, with which, in the latter stages, anæmia generally co-exists.

Before referring to the remaining change in composition of the red disks, I will recall a circumstance which may be noticed in the behavior of a drop of blood under the microscope. I refer to the tendency of the red disks to assume the position of rouleaux of coin. This adherence of the sides of the disks to each other, is caused by a viscid secretion, which encompasses each disk. Now, in certain inflammatory diseases, this tendency is greatly augmented, and instead of the rouleau-form being assumed by about one-half the disks, only a few solitary ones may be seen in the whole field. This is accounted for on the hypothesis of a hypersecretion of the normal viscid substance, caused by conditions peculiar to the inflammatory diseases.

(4) In *leucocythæmia*, we have a disease depending upon a variation of *proportion* between the red and white corpuscles of the blood. The disease was discovered by means of the microscope in 1845, by Bennett and Virchow, independently of each other. The latter termed the disease *leukæmia*, or white blood. The designation of Bennett, leucocythæmia or white blood cells, better describes the pathology of the disease, which consists in an enormous increase in the number of the leucocytes. As a slight increase in their number is common in pregnancy and other conditions, the profession has determined that in order to constitute leucocythæmia, the proportion must at least be one white to thirty or forty red cells. In the latter stages of the disease, the number of white sometimes equals the number of red cells; indeed, an excess of the leucocytes has been noticed, but it is most rare that a patient lives long enough for this to take place. An increase in number of the globulins of Donné is sometimes a marked feature of the disease. Enlargement of the spleen co-exists in the greater number of cases; this is also true of the lymphatic glands. The pathological relation of the above mentioned conditions with leucocythæmia is not well understood. To those who believe the ductless glands to be the source of origin of the leucocytes, a theory of the connection between an hypertrophy of these glands and a great numerical increase in the leucocytes, is obvious.

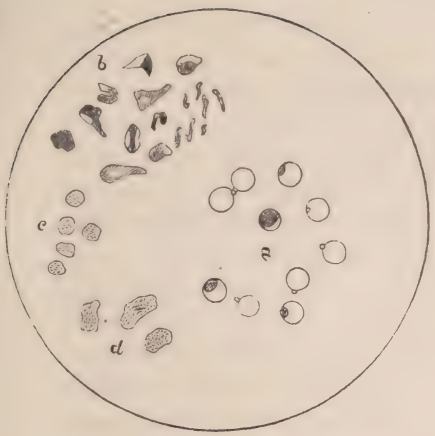
Speculative theories, however, are alone the result of the

summary of the facts we have been able to collect touching the etiology of this affection. Indeed, we are unable to determine whether it be a special disease, or merely a symptom of a disease not yet understood.

Pallor, hæmorrhages from the nose, dyspnœa, and a gradual weakening of the vital forces, are prominent symptoms of the disease. The microscope alone can substantiate the diagnosis.

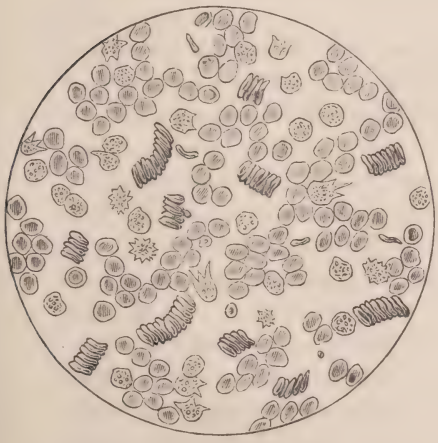
The undirected tendency of leucocythæmia is to terminate fatally in one or two years; nor can we, by the most approved treatment, very much diminish the gravity of the prognosis. Cases of cure have been reported following the prolonged use of iron and quinine. Dr. Broadbent, of England, speaks highly of the use of phosphorus, and claims, by its use, to have cured a case. Dr. Wilson Fox, following his treatment, also reports a case of cure. I have, at this time, a case under treatment in which the proportion of white to red cells is as one to seven; there is great splenic enlargement, and no previous history of malaria. No progression of the disease has been noted during the last six months. The illustration (*B* on institched page) shows the appearance of the blood. The treatment so far has been confined to the use of iron and quinine.

In the brief summary which has just been given of the diseases whose pathology, so far as we understand it, is dependent upon variations in the corpuscular elements of the blood, it will have been noticed that very little has been said of their diagnosis—that most important practical element in the study of disease. Truly it appears as if the latter fact was somewhat negligently appreciated by the professional men of England and America—so entirely have they neglected the one unfailing and accurate method which has, for some years, been made use of by the more accurate clinicians of Germany and France. Such a method, I think, those who have attentively read the foregoing will perceive, can only be the determination, in each individual case, of the exact number and proportion of the blood cells in a given volume of blood, and a comparison of the quotient so found to what is known to be the standard of health. This is not



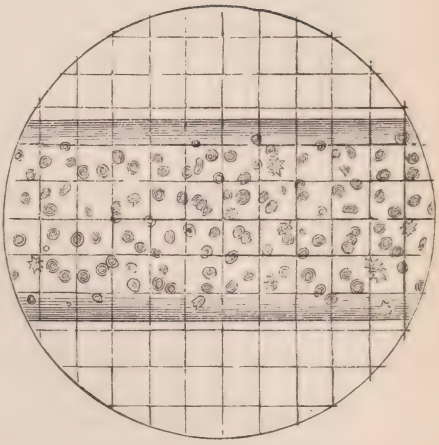
[A]

a. Human blood acted on, first by half per ct. solution of chloride of sodium, next by addition of two per ct. solution of tannin. *b*. Red blood disks in patient suffering from pernicious anæmia. *c* and *d*, small and large leucocytes in the same patient. *b*, *c* and *d*, copied from drawing by G. Mackern. *a*, Drawn from microscopic preparation of the blood of a healthy man. (See page 875 of journal.)



[B]

Blood of Creed Howard, negro, showing marked Leucocythæmia, drawn by means of Camera Lucida: Objective 8, Ocular 1. (See page 878 of journal.)



[C]

Illustration showing application of Malassez's hæmacytometer, seen under quadrilled ocular and low power. (Malessez.) (See page 880 at reference, misprinted L.)

only possible, but, I hope to show, may be quickly and accurately accomplished.

It is at once apparent that, although the number of corpuscles of blood sufficiently diluted, in the field of the microscope, might be enumerated, yet the many physical difficulties, such as evaporation, varying pressure of the cover glass, and density of the blood, would effectually prevent any two specimens being examined under exactly similar conditions, which is absolutely necessary in order to attain scientific accuracy.

Vierordt, whose first efforts nearly thirty years ago, though awkward, led the way to all that has since been accomplished in this direction, at first made use of the following method: Taking a certain volume of blood, as one cubic mm., he diluted it with a measured volume of water, as 100 cubic mms.; then taking a certain part of this mixture, as one cubic mm., he drew with it, on a glass slide, lines of uniform dimensions, and counted the blood disks contained in a definite proportion of these lines, by placing the slide under the microscope, and using a low power. In this way, by counting the absolute number of disks in a fractional part of a known volume of definitely diluted blood, the problem was first solved.

The method, although simple, is excessively tedious, and is also liable to inaccuracies. In testing it, I have found more accurate results could be obtained, by jotting down the disks on a piece of paper, by means of the camera lucida, and then counting them. This, however, makes the process still more tedious; and on this account, Vierordt's method should only be used when the physician has not at hand any of the recent instruments designed for accomplishing this purpose.

The following is the more recent method of Malassez: The blood to be examined is diluted with ninety-nine parts of a liquid, composed of one volume of a solution of gum arabic, of a specific gravity of 1,020, with three volumes of a solution of equal parts of sodium chloride and soda sulphate—also of a specific gravity of 1,020. The mixture, containing one part of blood in one hundred, is introduced into a small

thermometer tube with an eliptical bore—the sides of the tube being ground flat for convenience of microscopical examination. The capacity of the tube has been previously calculated by finding out the weight of the volume of mercury contained in a given length. Then fill the tube with the dilute blood, place under the microscope, and count the corpuscles contained in a given length of the tube by the use of the eye-piece micrometer. Cramer's method is very similar to this. Instead of a capillary tube, he has substituted a capillary cell. The accompanying illustration (see illustration L on institched page) shows the method of Malassez as illustrated by himself. Hayem, Natchet, and others, have made the improvement of employing a cell of definite depth and capacity, and using a quadrilled ocular or eye-piece micrometer ruled in squares, the value of which for the microscope used, has been accurately determined. Lastly, Dr. Gowers, of University College, London, in order to obviate the inconvenience of a method applicable only to a given microscope, makes use of a cell, the floor of which is ruled in squares. Some such arrangement is preferable, as it admits of being used with any microscope, object glass, or eye-piece, which may be at hand.

In the following arrangement, I think, is combined the advantages of all the methods previously described. It is extremely simple, and, in the hands of a careful observer, will prove most accurate. On a strong glass slide, a cell is made one-half an inch in diameter, and $\frac{1}{100}''$ deep, the surface of the floor, which must be absolutely flat, is ruled in $\frac{1}{50}''$ squares. The hæmacytometer is now complete. The capacity of the above cell is, I think, more convenient than is the case in the instruments either of Hayem or Gower. Its application is as follows: Into a narrow glass test tube, measure 199 minims of a solution made, by adding to distilled water, equal parts of sodium chloride and gum arabic, until a specific gravity of 1,030 has been attained. Next stick the point of a clean, sharp needle, quickly and freely into the tip of the patient's finger, so that its withdrawal will be followed by a rapidly increasing drop of blood. Care must be taken in this stage of the process, neither to retard the venous cur-

rent by means of a string around the finger, nor to promote the flow of the blood by pressure on the adjacent parts; for, in congestion, no matter how caused, the proportion of blood disks to the fluid is always more or less modified. So in order to approximate the proportion, as it exists within the vessels, it is necessary, in its withdrawal, to break up quickly the capillary walls and allow nature's forces, unaided, to expel the blood. A large drop having now collected at the seat of the puncture, take it up by means of a capillary pipette which is accurately graduated (one minim of blood), and blow it into the test tube containing the salt solution. Care must be taken to draw up and eject several times the mixture into the pipette, until all trace of the blood on its walls is obliterated. Now stir the mixture thoroughly with a glass rod, and by this means convey a small drop (not enough to run over) to the cell of the hæmacytometer; cover with a flat, glass slip, which should be held down by means of springs, and place under the microscope for examination.

Prepared as above, the $\frac{1}{500}''$ squares on the floor of the cell (counting a few in various parts of the field and taking an average) should contain, if the blood be normal and the experiment skilfully performed, sixteen corpuscles each. In observations on blood supposed to be abnormal, the per cent. of gain or diminution in the proportion of red disks in a given volume of blood is readily found, and the consequent diagnosis made, by determining the average number of disks to a single square on the floor of the cell, and comparing with 16 as the standard of health. For the solid capacity of the cell of the hæmacytometer contains $\frac{1}{5009}$ of a cubic inch; and, as we know that one cubic inch of blood contains 78,000,000,000 blood disks, we also know that the cell above described will contain, in a mixture composed of one part blood to 199 water, 766,208 blood disks.

Again, the floor of the cell is divided into 49,087 $\frac{1}{500}''$ squares. It consequently follows, that, after the subsidence of the disks on the floor of the cell, each square will contain 16 corpuscles. The instrument just described may be used to determine the proportion of any microscopic objects which may be found in any fluid, as the proportion of pus cells in

pus, casts, blood cells, etc., in the urine, and colostrum corpuscles in the milk. It will be furnished by Messrs. J. W. Queen & Co., at a moderate cost.

In ordinary anæmia, the blood contains about 75 per cent. of the normal number of disks. In very grave forms of the disease, they sometimes fall as low as 20 or 30 per cent. Below this, death by anoxæmia would probably occur, the disks being numerically insufficient to supply the amount of oxygen necessary to the life of the tissues. In a case reported by Gowers (*London Lancet*, August, 1878), the number of disks fell as low as 20 per cent. of health. In the same case, under prompt treatment, an increase of 10 per cent. occurred in two days. He is confident that the use of the hæmacytometer, both as a means of diagnosis of anæmia and kindred affections, and also to inform us of the efficacy of the treatment being used, greatly adds to our means of producing a quick and successful termination of such cases.

The hæmacytometer will also be found especially useful in those cases of heart trouble in which doubt exists as to the cause of the murmur. If the proportion of red disks is found to be that of health, hæmic murmurs may be excluded.

The two remaining points which are of use in the diagnosis of anæmia—viz., the color of the skin and mucous membranes, and the physical sounds of the heart—are here deserving of brief mention. Of the former, I would say, that it cannot be very accurate, as variations of 20 per cent. in the proportion of blood disks have been noted, by means of the hæmacytometer, without noticeable change in the color of these tissues. Concerning the latter, it must be remembered, that anæmia of a serious character may exist without a hæmic murmur; when heard, however, by one skilled in the physical exploration of the chest, it is a most certain sign of anæmia.

In conclusion, I will add that, although the proportion of blood-cells may be determined by chemical analysis, yet the large quantity of blood required, the cost of the apparatus, together with the inability of any one properly to perform the work, save those who are experts in quantitative analysis, effectually precludes the use of the method by the medical profession.

ART. IV.—**Oyster Shucker's Corneitis (Corneitis Ostearii).** By W. J. McDOWELL, M. D., Chief of Clinic to Chair of Eye and Ear Diseases University of Maryland; Assistant Surgeon to Presbyterian Eye and Ear Hospital, etc., Baltimore. (Read before Baltimore Medical and Surgical Society, January 16, 1879.)

I desire, Mr. President and Gentlemen, to ask your attention, for a short time, to the consideration of a trouble that, while exceedingly common, has, I believe, up to this time, escaped observation, if not certainly record.

You all know that the oyster-packing trade of this city has attained to no small dimensions, and that a very large number of our laboring class find employment in the colossal establishments devoted to this interest. Those whom fate has ordained to be "shuckers" suffer no little from their calling; and amongst the troubles to which they are liable is a specific form of ophthalmia, to which I have given the name, "*Oyster-Shucker's Corneitis.*"

The disease in question, its appearance and phenomena, may be thus briefly described. Upon examination, there will be found, at or near the centre of the cornea, a very small and dense pearly opacity of interstitial exudation about the size of a small pin head, almost perfectly circular in shape, and with a sharply-defined outline. Immediately surrounding this, is an area of hazy infiltration about a line or a line and a half in diameter, which fades out insensibly at its periphery, into clear corneal tissue. Careful observation, however, is here necessary, for the minute, pearl-like central opacity, looks most deceptively like a small fragment of shell imbedded beneath the epithelial layer. Indeed, such was my own mistake in the first few cases of the kind which fell under my observation; and I need not add, that my persevering efforts to remove the supposed foreign body with the spud resulted in no good to the patients so treated. Marked circumcorneal scleral injection, photophobia, lachrymation, ciliary neuralgia, etc., are usually associated with this condition, making cessation from labor a necessity—a necessity which the sufferer in most cases can illy afford.

The cornea, at the point of the dense central opacity, in

the vast majority of cases takes on ulcerative action; but the ulcer thus formed, rarely spreads to any dangerous extent, either in depth or circumference; although, in a few cases that I have seen, where treatment had been too long deferred, most disastrous results ensued. In these cases, the whole central portion of the cornea, becoming necrotic, broke down, and finally, after a long period in which inflammatory action ran high, the corneal tissue thus destroyed was replaced with a dense and permanently opaque cicatrix.

Now this condition, no doubt, has been heretofore regarded as due to traumatism—the statement of the patient, "a piece of shell flew into my eye," being accepted as true. That many cases of traumatic disease of the eye may occur in oyster shuckers, I would not for a moment dispute, and I believe that to such injuries they are very liable. But there occurs far more often the form of corneitis to which I refer, and which, I believe, is possessed of a specific character.

The appearance of an eye laboring under this disease is so perfectly characteristic, that the condition having been *once* seen and noted by the physician, will ever after be recognized when met with; so that a mistake in the diagnosis, oyster-shucker's corneitis, will be impossible—there being no other disease or injury of the eye with which it could possibly be confounded.

If seen sufficiently early, the disease may be, and usually is, arrested in from three or four days to a week. All of the *acute* symptoms will subside in this time, but the central opacity only very slowly disappears, weeks being always required for the complete resorption of the effused products.

The cause of this peculiar affection, I am disposed to attribute to a *specific toxic element contained in the slime and dirt which coats the oyster shell*, which getting into the eye, lights up this inflammation; for no trace of traumatism can, by the closest scrutiny, be detected. Certainly, if the trouble were of traumatic origin, it would be subject to great variations, not only in the general appearance of the lesion, but in its location also. Here, however, we have as well-marked and constant phenomena as are found in any other disease of the eye—the appearance being so perfectly characteristic, and

the location of the central infiltration being always within two lines of the centre of the cornea. Surely such a constant combination of conditions, and such *definite location* could not possibly depend upon a mere accidental abrasion.

I will not burden this paper with a relation of cases, for each one would offer the appearance and symptoms named above, colored, of course, with the individual peculiarities of constitution, temperament, etc.

I have had under my care during the last twelve months, between forty and fifty of these cases; and I find that, although a specific disease, it requires no specific form of treatment—the measures applicable to the ordinary forms of corneal inflammation and ulceration being equally valuable here. There is one point in the treatment, however, and one to which I have already referred, and that is the avoidance of the temptation to use the spud for the removal of a supposed splinter of shell. An incorrect diagnosis, and a hasty use of this instrument, can only result in harm to the patient. The only measures to be adopted are the thorough cleansing of the eye by means of a camel's hair brush and warm water, and the subsequent use of those measures which are effective in other and allied forms of ocular disease.

280 *Madison Avenue.*

ART. V.—**Damiana as a Nerve Tonic.** By C. G. POLK, M. D., Philadelphia, Pa.

My views on damiana as a sexual tonic are known to a very large number of the members of the medical profession. Further experience has strengthened the high appreciation I have expressed of its value in sexual debility, and given me, I think, some new ideas as to its physiological action and position as a remedial agent. It is pre-eminently a nerve tonic, impressing the brain and nerve centres very much in the same manner that strychnia does. While, however, void of poisonous properties, it excites nerve cell nutrition, and enables the nerve cell to assimilate its proper pabulum from the blood.

For the medulla oblongata and the medulla spinalis, it has

an especial affinity. The motor nerves seem more impressed by its influence than are those of sensation. Hence I inferred that it would prove valuable in paralysis. Opportunities offering, I tested the accuracy of this inference in two cases—one hemiplegic; the other paraplegic. In both, damiana proved of unquestionable efficacy; the advantage was as unequivocal as I ever witnessed from the use of strychnia and ergot.

If my theory of its *modus operandi*—that it acted as an invigorator of the primordial nerve cell—be correct, it is easy to understand its true place in the treatment of certain forms of paralysis, as well as other nerve lesions in which deficient cell nutrition plays an important part. Damiana, by its direct action as a nerve tonic, by removing the morbid condition or stimulating the cells in inactive conditions, supplies a great want in therapeutics.

If impotency has accrued in the male from inability to secure the necessary erection to convey the seminal fluid into the female, and to produce in her the very important yet not absolutely essential orgasm for impregnation, this remedy, in the absence of organic or structural change, will almost invariably overcome the difficulty. It accomplishes all, and even more effectually, the results attained by combinations of iron, strychnia, ergot and cantharides.

In several cases of nervous exhaustion, I have found the organismal hypophosphites to give rather negative results, on account of the nerve cell being unable to imbibe its proper pabulum. In such cases, I have used damiana alone with evident benefit; but the two agents together are almost magical in their effects.

I have recently used these two agents in combination with extract of malt, and the result has exceeded my fondest expectations in several cases of mal-nutrition and general cachexia. I have also noticed that the capacity for both physical and intellectual labor is increased by the use of this combination.

Recently, I used damiana in a case of obstinate constipation, and found the trouble entirely removed; and this after having used a multitude of remedies. Whether the result in

this case was a mere coincidence, or will again occur, I shall determine by future trials. I believe damiana can be advantageously used in all cases in which strychnia is now employed.

The preparation I have used is the fluid extract, either prepared by myself by cold repercolation, or by Dr. F. O. St. Clair. I abstain from heat in making it, as high temperature is as fatal to damiana as it is to wild cherry. May not the rise of heat in the manufacture explain the reason why so much of the fluid extracts found in the market is utterly worthless, and has brought so much reproach, to be shared by the properly prepared and valuable article?

Damiana, like ergot, isolated phosphorous compounds, podophyllin and other valuable agents, has had its good name traduced, and at it has been hurled the usual remedy of the weak ridicule; but truth, as it always will, has triumphed, and this agent is, no doubt, destined to an officinal position in our pharmacopœia.

ART. VI.—**Is Morphia, Hypodermically Administered, an Antidote to the Poison of Reptiles and Insects? Will Rhubarb, Administered with Morphia, Prevent the Nausea so General after the Use of Opiates?** By R. H. TATUM, M. D., Dayton, Va.

On the 26th of September, I was called hurriedly to the son of Mr. G., who had been bit by a spider. The messenger informed me that the boy, whilst gathering corn early that morning, had stated that he had been stung by a spider, and that soon afterwards, he had complained of severe pain in the leg; that on getting him to the house, the family had administered a large quantity of spirits without the slightest relief.

While on the way to the residence of Mr. G., a distance of about three miles, just before reaching his home, I was met by the father, who came to quicken my pace, with the statement that his son was suffering intensely, that his surface was cool, that he seemed to be pulseless, and that he was in a most critical situation. He confirmed the statement of the messenger, that the boy had drunk largely of brandy, without its affecting him in the least, either as a stimulant or lessening the pain.

I found the patient with every manifestation of intense pain, cool skin and feeble pulse. On examining the limb, I saw the puffed place upon the foot, where the spider had inflicted the wound. The little fellow informed me that the first pain he felt was along the back of the leg, chiefly in the tendons of the popliteal space, that it then passed up the thigh into the abdominal muscles. On examining the abdomen, I found the muscles firmly contracted, and uninfluenced by strong pressure. The stimulants had been given early in the morning, and continued until rejected by the stomach, which was several hours before I saw him; for I did not reach the house until nearly eleven o'clock. Having nothing to hope from the further use of stimulants, I determined at once to try morphia hypodermically. I inserted seven drops of Magendie's preparation, and waited anxiously for the result. In about fifteen minutes, he fell into a calm sleep; the pulse increased in violence, and the surface regained its usual temperature. He slept for about twenty minutes, waking up with the expression, that he felt a great deal better. From that time, he was free from pain, but complained of weakness for several days. I ordered a dose of castor oil that night—that being all the treatment in the case.

This result could not have been brought about by the stimulants; for they had been suspended as hopeless for hours before I got to the patient. The prompt and entire relief, following the insertion of the morphia, would, at least, warrant its use in case of poisoning from reptiles and insects generally.

Permit me, before concluding, to ask another question. Will rhubarb, when administered with morphia, prevent that nausea which so often follows the administration of that anodyne by the mouth? I think it will. A few grains of *powdered* rhubarb, given with the morphia, will not only prevent nausea by its tonic influence upon the mucous coat of the stomach, but I have seen the appetite greatly improved by its use—that, too, when it was given nightly for a long time; and on the withdrawal of the rhubarb unpleasant effects followed. This suggestion, also, I think, is worthy of a further investigation.

ART. VII.—**Some Remarks upon Puerperal Eclampsia, Based upon a few Cases under My Care.** By P. C. WILLIAMS, M. D., Baltimore, Md. (Read before the Baltimore Medical and Surgical Society, Nov. 7th, 1878.)

The books give such full descriptions of puerperal eclampsia that I do not intend to enter upon any formal discussion of the subject. I prefer rather to make a few remarks based upon my personal observation; for after all, practical experience is the most efficient teacher upon any subject. With your permission then, Mr. President, I will give a brief description of three cases that occurred under my care during the past year.

CASE I.—Mrs. C., aged 27, was a woman of fine physique, of great beauty of expression and complexion, and enjoyed uninterrupted health until the sixth month of her second pregnancy, when she began to complain of very severe headaches, which came on with great suddenness and with extreme severity. At first, I supposed the headaches were neuralgic, and I treated them accordingly; but treatment failed to accomplish any lasting benefit. About this time, her limbs began to swell; this, however, excited no suspicion, because it is so common. In a few weeks—viz., about the sixth and a-half month of pregnancy—her hands and face began to swell. This at once arrested my attention, and I found that Mrs. C. was laboring under albuminuria—a condition which at once explained the sudden and violent headaches. Promptly, I put her upon treatment by bromide of potassium and saline purgatives. The occasional violent headaches were always readily and, for the time, entirely relieved by the hypodermic use of morphia. This condition and treatment lasted until about 8 o'clock on the evening of February 28th, when Mrs. C. seemed uncommonly well and in fine spirits. While sitting at the tea-table, she was suddenly seized with a headache of unusual severity. I was sent for immediately, and soon reached the house; and, as usual, administered morphia hypodermically. This soon put her to sleep, and I went home.

About an hour after reaching home, I received an urgent message and went immediately to see her, and found that she had had an epileptiform convulsion of considerable violence. She rallied from this convulsion, and conversed with her usual intelligence. While talking with me, she complained of intense pain in the head, and was soon seized with a sec-

ond convulsion. I at once put her under the full influence of chloroform. Before the second convulsion, I examined, and regretted to discover that labor had not begun. As soon as she was attacked with the second convulsion, I realized the absolute necessity of delivering the child, in the hope of arresting the convulsions. I accordingly sent for Prof. Howard, with request to bring Barnes' dilators, with the intention of bringing on the labor. Before Prof. Howard arrived with the dilators, I made another vaginal examination, and ascertained that the os uteri had become dilatable under the influence of the chloroform. I applied the forceps *in utero*, and succeeded in delivering a living child. This was accomplished about 1 o'clock, and I hoped would arrest the convulsions. But a third one came on about an hour afterward, and was longer and more violent than either of the preceding ones. From this convulsion she never roused, and died at 3 o'clock.

Case II.—Mrs. R., a young married woman, 21 years of age, of pale, delicate figure, but of good health, and pregnant with her first child. The only morbid symptom during her entire pregnancy, was a marked degree of nervous irritability. Otherwise, her health was excellent, and her appetite unusually good. No swelling of the limbs or face. She dined heartily at 4 o'clock the day of her confinement, and ate very heartily of pickled beets. At 8 o'clock P. M., July 19, 1877, she was taken in labor. After a very natural and short labor, she was confined at 12 o'clock of twin boys, born about fifteen minutes apart. I administered a very moderate quantity of chloroform during the labor. After the birth of the twins, Mrs. R. slept quietly for about an hour, when she awoke with headache and sick stomach. Having ascertained how heartily she had eaten at dinner time, I supposed that she was suffering from *sick headache* arising from indigestion. She conversed very rationally about her condition, and finally begged me to do something for her headache, saying that "she would go crazy unless she obtained relief." I gave a hypodermic injection of morphia, under which she went into a sound sleep, which lasted about an hour and a half. She then awoke, seemed entirely rational, and while talking with me, she suddenly threw up her left arm, and went into a decided convulsion. The convulsions returned in about an hour, notwithstanding the use of chloroform. I concluded, as there was no albuminuria, that the convulsions were reflex, and arose from indigestion, produced by the pickled beets. After giving an emetic, and finding

that she vomited no food, I thought the indigested food had passed into the bowels, and accordingly gave two drops of croton oil every two hours until I gave ten drops. This failed to act on the bowels. In spite of treatment, the convulsions returned about 12 o'clock, and became more frequent and more violent, accompanied with more and more profound coma, until 7½ P. M., July 20th, when Mrs. R. died in a convulsion.

Case III.—On August 8th, 1877, about 1 o'clock I was called, in the absence of her family physician, to see Mrs. P., a lady 28 years old, who had just given birth to her fifth child, after a very short and easy labor of about three-quarters of an hour duration.

I found her very much swollen, suffering from general anasarca, very pale, and in a very unnatural condition of depression and indifference, and complaining of severe headache. She had a slight convulsion about every half hour. While waiting for the chloroform, for which I had sent, I bled her tolerably freely, but without any improvement to the rapidly approaching coma. At this period, I sent for Prof. Chew to bring some nitric acid and a test tube. In the meantime, I drew off some urine with a catheter, and we found it almost solid with albumen by the addition of the nitric acid. She sank rapidly, and died in six hours from the commencement of her labor.

These cases occurred during the past year. I have reported them as typical cases of three important varieties of puerperal eclampsia.

The first case was one of albuminuria, discovered three months before confinement, and treated with whatever skill I could command. The mother died after six hours' illness. The child was delivered by forceps applied *in utero*, and is still alive and in good health.

The second case was clearly a case of reflex eclampsia. No albuminuria; no disease of any kind that was discovered; an easy, natural labor, yet eclampsia set in three hours after the confinement, and was fatal in twenty-four hours. Both children died—one in ten days, and one in twenty.

The third case was one of eclampsia produced by albuminuria, which had not been under treatment before the labor terminated. This proved fatal in six hours. The child died fifteen days afterwards.

At this point, I would like to call attention to

Case IV.—Mrs. F., 25 years old, a frail, delicate figure, was pregnant with her third child. I was called to see her February 9th, 1878. I found her suffering with severe headache, enormously swollen, with general anasarca. I ascertained that she had twice before suffered in the same manner. In her first pregnancy, she was in a similar condition, and had a miscarriage at the seventh month, after which she apparently regained her health. A second pregnancy presented the same condition, except that she miscarried at the fifth month.

When I saw her in her third pregnancy, and found her so enormously swollen, with great nervous irritability, I concluded that she would certainly be attacked with eclampsia. But to my great relief, she miscarried at the seventh month, and has since been doing very well. The albumen, &c., we have greatly diminished, and she bids fair again to enjoy reasonably good health.

The four cases present the striking fact that Nos. I and III had fatal eclampsia succeeding pre-existing albuminuria. No. II presents a case of fatal eclampsia, without preceding albuminuria. No. IV shows very decided albuminuria *without eclampsia.*

These cases show, beyond all doubt, that, although albuminuria is a very important factor in the production of puerperal eclampsia, yet we may have eclampsia, even of a fatal character, *without albuminuria;* and we may have very decided albuminuria *without eclampsia*, as shown by Case No. IV. In this latter case, there was a spontaneous miscarriage in each of the three pregnancies at or before the seventh month.

This naturally suggests the question, How far these facts are cause and effect? In other words, does the continuation of pregnancy after the seventh month predispose to eclampsia? Would abortion, at or before the seventh month, prevent eclampsia?

The three abortions of Mrs. F. in No. IV, seem to show that eclampsia may be averted by a miscarriage or premature labor before the seventh month. On the other hand, Case No. I seems to show that, in cases of decided albuminuria, no treatment, however active, will prevent eclampsia if the pregnancy go to full term. This is claimed to be true by many modern writers, and the conclusion seems warranted by the cases reported in this paper.

You see, therefore, Mr. President, how grave a question is thus submitted to our conscience as medical men. If the truth of this position is sustained by future observation, it becomes a very serious and momentous question for the profession to determine. Shall we produce abortion at the seventh month in cases of decided albuminuria, with the hope of preventing eclampsia at "term?" Or shall we wait until "term," and run the risk of sacrificing the mother in eclampsia in order to save the life of an unborn fœtus? This, as already said, is a most serious question, and one which the profession will be called upon to answer before many years.

I confess that my mind inclines to settle into the conviction that it is our duty to produce abortion at or before the seventh month, whenever we have to deal with a case of decided albuminuria! By this act, we almost certainly save the mother, although we sacrifice the child. By waiting until "term," we run great risk of sacrificing both mother and child. I believe that in the great majority of cases, the children of albuminuric mothers are certain to die within a few days or weeks after birth. If this can be proved by further observation, it would very much simplify the issue. For, in either case, whether we produce abortion or not, we must certainly expect to lose the children—with a very great probability of losing the mother also. By waiting, we jeopardize both mother and child; by acting promptly, we lose the child, but we almost certainly save the mother! Ought we to hesitate in such an issue?

A few words now as to treatment, and I will detain the Society no longer. The first great indication, according to my judgment and experience, is the immediate use of chloroform, which must be administered continuously for many hours. The great mistake made by many physicians is giving chloroform only during convulsions. It seems to me that the great object of the use of chloroform is to *prevent* the convulsions. How can this be accomplished if we confine the chloroform to the convulsive stage? The chloroform must be given, as already said, continuously for many hours. This gives the best possible chance of arresting the convulsions.

The second great indication is to deliver the child as speedily as possible. If the os uteri does not relax promptly (as it generally does) under the use of full doses of chloroform, we should at once resort to Barnes' or some other dilators, and dilate the os sufficiently to enable us to introduce the forceps "in utero." This can be done with great ease by any one skilled in the use of forceps. We lose invaluable time by waiting for the head to descend into the pelvis before we apply the forceps.

The early use of chloroform and the forceps afford the promptest and most efficient treatment for eclampsia. Where chloroform cannot be had at once, I think it all important to resort to full hypodermic doses of opium in some form.

Blood-letting has long held sway over the professional mind as the best remedy for eclampsia. I am sorry to say that my experience does not confirm its great reputation, although, occasionally, I have seen temporary advantage from its use. In the great majority of cases, I have observed very little if any benefit whatever.

Within the last year or two, jaborandi has assumed a very exalted opinion in the treatment of eclampsia. Personally, I have had no experience in its use. As a matter of speculation, the utility of jaborandi must depend very largely upon the fact whether *urea* will be eliminated through the skin by the profuse sweat produced by its administration. You will readily see that jaborandi would be exceedingly useful if it eliminates urea through the skin—for thus it would directly diminish the quantity of poison from the blood. On the other hand, if the cutaneous elimination of urea is not produced by the jaborandi, it becomes a dangerous remedy; for in proportion as we diminish the fluid constituents of the blood, do we relatively increase its solid constituents. Thus after the serous depletion produced by jaborandi, any given quantity of blood would contain a relatively larger amount of urea, and would become a source of increased danger. Upon this question I am not prepared to express an opinion. But I think the question a very practical one, and eminently deserves the candid and careful attention of the profession.

Clinical Reports.

Case of Hydrophobia,* with Doubtful History as to Cause. By G. McDONALD, M. D., Union, West Virginia.

As everything relating to that horrible malady, hydrophobia, is of fearful interest to the medical profession, as well as to mankind generally, I feel it incumbent on me to report a case that came under my observation:

I was called on Saturday, August 17, 1878, to see Mr. C. K. Budd, an exceedingly estimable and worthy man, 54 years of age, painter by profession. I was told "that he was very nervous;" but I was wholly unprepared for the horrible spectacle that presented itself on my entrance into his room.

The history of the case previous to my arrival, as well as I could learn from his intelligent young wife, was, that on the previous Tuesday or Wednesday he was taken sick with symptoms of facial neuralgia, and with something like muscular rheumatism, or neuralgia, in the neck and shoulders, and sore throat. These symptoms were followed in a day or two by the development of nervous excitement, agitation and apprehension.

When I arrived at his house, about 12 M., and walked into his room, I was shocked at his wild and haggard appearance, and his great nervous agitation. As I advanced towards him, he said, "Doctor, you must wait a little until I can compose myself, to shake hands with you." I found, in consequence of great muscular or nervous agitation, that he did not speak distinctly. There was much muscular tremor, with perhaps some want of muscular co-ordination. The muscular tremor was as great as you would expect to see in a bad case of delirium tremens, and was much more marked on the left than on the right side; and, besides, he complained of some numbness in the left arm and fingers, and had slept little or none for the three preceding nights. His pulse and temperature were normal; tongue a little coated. I prepared a solution containing bromide of potass., and fluid extract of valerian, $\overline{aa}$ ℥j, and proceeded at once to administer the dose. He sat up in bed, became greatly agitated, but seemed willing to make the effort, as I told him it would help him; he called his wife to his side, placed one arm

*Read before the Medical Society of Virginia October 24, 1878, and by the Publishing Committee referred to the author, with the suggestion to publish it in some medical journal. The author has kindly furnished it to the *Va. Medical Monthly*.

around her body, so as to support himself, took hold of his beard with the other hand so as to steady his head, and then grabbed at the spoon and aimed to gulp it down; or he would shut his eyes, open his mouth, when I would put it quickly in his mouth and jerk the spoon away. He would then place his hand firmly on his mouth, and choke and strangle until his eyes would "pop," and he became purple in the face. He would sometimes swallow the larger portion of the dose, and at other times it would be ejected from his mouth with great force. The above is but an imperfect description of every attempt to administer any liquid whatever, in any quantity, from the time I first saw him until his death.

It was with great difficulty that he could take food in any shape. To allay his thirst, we tried to give him small pieces of ice, but that also, as soon as it melted in his mouth, caused distress. He was much troubled with a very tough, tenacious mucus in his mouth and throat, and spent a good deal of his time in coughing, hawking and spitting, and sometimes he would pull the mucus out of his mouth with his fingers. There was great hyperæsthesia of the surface, so that he would generally beg us not to touch him, and shrink back from even having his pulse felt.

During Saturday night, he had repeated laryngeal spasms, or spasmodic attacks of the throat, that took away his breath, so as to cause him to turn purple in the face. He would spring up or throw himself over on his hands and knees, and struggle for breath and for life. These efforts usually terminated by the expulsion of some tough phlegm. These attacks generally occurred when asleep, especially when lying on his back. If, at such times, he was awakened by some one placing his hand on him, he would rouse up, and at once have one of these attacks, which were evidently caused by the mucus trickling into his throat while asleep on his back.

Late Saturday evening, I called to my assistance my friend, Dr. B. F. Irons, who was kind enough to remain all night and until the middle of the next day. After trying to give him several doses of the bromide and valerian, in consequence of the great distress this caused, we ceased to give anything by the mouth, and gave everything by injection, either per rectum or hypodermically. We gave, at intervals of two, or three, or four hours, per rectum, bromide of potass., ʒj, hydrate of chloral, 20 or 30 grains, and occasionally, either per rectum or hypodermically, ¼ to ½ grain of sulphate of morphia.

In spite of this active treatment, he got but little sleep Saturday night, and was no better Sunday morning. He was rational most of the time, until about the middle of the day (Sunday), when he became profoundly delirious, so as to be entirely unconscious and unintelligible. It is worthy of remark that even in this state of delirium and unconsciousness, it was still impossible to give him drink. I think it likely, if at this period he had not been profoundly under the influence of medicine, that he would have been violent and unmanageable. This distressing delirium continued all Sunday evening, with but little sleep, in spite of the fact that the bromide and chloral and morphia were given at regular intervals. At bed time Sunday night, he had ¼ grain of sulphate of morphia, hypodermically, after which he slept, and his breathing became labored and stertorous; and at 1 or 2 o'clock Monday morning, he died comatose—the pulse remaining good until the moment before his death.

I forgot to mention that during most of the time there was free perspiration. On Sunday morning, the pulse had risen to over 100; Dr. Irons found the temperature 102°F. I think there was no action of the bladder after my arrival, nor any accumulation of urine; nor did he have an action of the bowels, except such as was caused by the medicines that were injected—some of which were not retained.

We were not able to obtain from his friends any evidence of his ever having been bitten by any animal at any period of his life. From feelings of humanity, we refrained from asking the patient anything on that subject. Since his death, however, we have learned from a perfectly reliable source that a few years before his death, he was bitten by a small dog under very suspicious circumstances. He, with others, had gone out into the fields, the dog going with them, being friendly while out, but left them and returned home. While Mr. Budd was returning to the house, the dog sprang at him, and bit him violently. Unfortunately, the place was not remembered, so that we have been unable to trace the history of the dog after this unfortunate event.

During one of the attacks of laryngeal spasm, I attempted to administer chloroform, but it seemed to increase his trouble, and as he resisted it, I soon desisted from the attempt, without getting him under its influence. We made no *post mortem*.

Correspondence.

Buffalo Lithia Waters for Uræmia, Albuminuria of Pregnancy, Suppression of Urine in Yellow Fever, Menstrual Disorders, and Uric Acid Diathesis.

Mr. Editor.—Being a native of, and until after the war a practitioner in, the Southside Section of Virginia, my attention has often been drawn to the virtues of Buffalo Lithia Spring, No. 2. I have now prescribed this water for years, and it may benefit your readers to know my experience with it.

The first *test* that I ever made of it was in a case of uræmic poisoning occurring in a member of my own family. After a signal failure of every remedy that could be suggested by several eminent medical men, and when the condition of the patient was regarded as well nigh hopeless, a trial of this water was determined on. The result was relief from the threatening symptoms—so prompt and decided as to be almost incredible to any one but an eye-witness. If there be such a thing among medicinal agents as a specific, I think it may be fairly claimed for this water, that it is a *specific for uræmic poisoning*.

I read with much interest the remarks of Dr. James B. McCaw before the Richmond Academy of Medicine (reported in the December number, 1878, of your journal), concerning the Buffalo Waters, and especially the statement that he had found them of great value in the albuminuria of pregnant women. Both albuminuria and uræmic poison being fruitful of serious disturbance, and oftentimes of imminent danger to woman during pregnancy, from what has been said, the use of these waters as a prophylactic during this period would seem to be very strongly indicated.

Their great value in malarial diseases and sequelæ has been most abundantly and satisfactorily tested; and I have no question that it would have been a valuable auxiliary in the treatment of the epidemic of yellow fever which so terribly afflicted the Mississippi Valley during the past summer. I prescribed it myself, and it gave prompt relief in a case of suppression of urine in yellow fever, and decidedly mitigated other distressing and dangerous symptoms. The patient recovered, but how far the water may have contributed to that result (having prescribed it in but a single case) I, of course, cannot undertake to say. There is no doubt, however, about the fact that its administration was attended by the most beneficial results.

While there is nothing in the analysis of the water that would indicate its special adaptation to such cases, I have found it of great potency and value in uterine diseases—par-

ticularly in the various disturbed conditions of the menstrual function.

Two cases of uric acid gravel have come under my observation in which this water gave perfect, and, I have reason to believe, permanent relief. As a nerve tonic, I think there is nothing known to the profession at all equal to it, and its *modus operandi* is, I take it for the most part, through the nervous system. Without going further into detail, I will add that this water is the most extensively applicable remedy in diseased conditions of the system, especially those involving morbid secretions, known to me.

Respectfully, &c.,

JOHN W. WILLIAMSON, M. D.

Jackson, Tenn., December 30, 1878.

Dialyzed Iron.

PHILADELPHIA, November 20, 1878.

Mr. Editor,—Having read a communication from Dr. J. Michaux, of Cedar Point Landing, Va., in the November number, 1878, I thought perhaps it would interest your readers to make an explanation of the enigma to him.

I have recently paid much attention to the chemistry of dialyzed iron, and enclose an article written to the *Cincinnati Lancet and Clinic*.

From the constitution of this solution of dialyzed iron, you will find that it is almost identical to the hydrated peroxide of iron, being a solution of the oxide made by dialysis, and containing, when properly prepared, a small amount of chlorine, just sufficient to prevent decomposition. The solution is almost tasteless, and both physically and therapeutically, it offers many advantages to patients who are unable to take the muriated tincture of iron, and the other salts of that metal. Your readers will appreciate that, being almost identical, chemically, to the hydrated peroxide of iron, it naturally would be incompatible with arsenious acid, and consequently must result in the precipitation of the iron. If given largely, it has proven, in a number of cases (some five having been published in the different medical paper), one being written by Dr. T. B. Reed, of this city, an effective antidote for arsenic, which is due to the very result that Dr. Michaux has noticed in the prescription he alludes to. His experience is only another proof of the value of dialyzed iron as an antidote of arsenic.

Very truly yours,

MORRIS STROND FRENCH, M. D.,

1431 *Chestnut Street, Philadelphia, Pa.*

Original Translations.

From Spanish and French. By CHAS. R. CULLEN, M. D., P. O., Richmond, Va.), Hanover county, Va.

Herpetic and Scrofulous Eruptions.—(*Revista de Medecina y Cirugia Practicas*, Madrid, September, 1878. Dr. Olavidé.) *Herpetic Eruptions* are not found in children; and, in adults, they generally appear in persons over thirty years of age.

Scrofulous sores have often been called herpetic. In these, the use of arsenic is injurious. Iodide of iron, cod liver oil, and iodide of sulphur, assisted by appropriate local remedies, are most suitable. Scrofulous eruptions become malignant when badly treated or left to nature, and become one of the strongest proofs of a scrofulous constitution. The matter of scrofulous sores is acid; that of herpes alkaline. Scrofulous nursing children are fleshy, beautiful and appear robust: those of syphilitic parents are the reverse, and have an old look in their features. Therapeutics can do but little for syphilitic children. The evil is great, and the children small and debilitated. The parental crime is horrible, but the punishment is not confined to the consciences of the parents.

Contagious Cutaneous Affections are 1st. *Parasitical*—(itch, tinea favosa, t. tonsurans, pityriasis versicolor and cutaneous diphtheria.

2d. *Eruptive fevers*—(measles, small-pox, scarlet fever.)

3d. *Virulent affections*—(gonorrhœa, syphilis, carbuncle, glanders, typhus fever and erysipelas).

Hereditary cutaneous fevers are constitutional, as are skin deformities, *e. g.*, lepra, cancer, scrofula, herpes, &c.

The skin disease, thoroughly hereditary, is the *herpetic psoriasis*. We admit fourteen forms or symptoms of the disease, tumefaction, papulæ, etc.; but there are other symptoms from complications. The consecutive forms are four: Hypertrophy, ulcers, crusts and cicatrices, and by these alone the disease is identified.

Obstruction of Bowels Treated by Mercury.—After the usual remedies had failed, Dr. O. gave one pound of liquid mercury (quicksilver) in doses of two, four, and six ounces (in turn), with four ounces of castor oil, resulting in several passages, and successful cure.

Hot Baths for Chronic Diarrhœa.—Dr. O. treated chronic diarrhœa, of ten months duration, successfully by hot baths,

after being treated by different doctors and under several systems.

Cancer Treated by Eucalyptus.—M. Luton, of Rheims, gave a patient with cancer, eucalyptus internally and locally, with good results—the cancer healing entirely.

Carbunculous Affections.—M. Bellhomme read a paper before the Academy of Medicine, of Paris, in September, 1878, on this subject, with the following summary: Infectious insects in the blood localize into carbuncles. To prevent these, take phenic acid internally, and use strong sulphur baths.

Extirpation of the Uterus.—In the *Gaceta de Mejico*, March, 1878, Dr. San Juan gave a clinical history of a case. The subject was a woman, 56 years of age, married, with several children. Three years before, the pain commenced and continued till her health was much shattered. The disease was so extensive, and the discharges so putrid, that extirpation was deemed necessary. With six thread ligatures, he succeeded in eighteen days in the successful removal of the whole uterus, followed by the complete cicatrization of the adjoining tissues.

Cancer of the Womb Treated by Bromine Injections.—(By Dr. Williams, of Vienna.) A woman, 50 years of age, had been treated for cancer of her womb, and the os had been removed. This was followed by new epithelial ulcers, which were touched with red hot iron. After this, he used injections of bromine, one part to three of rectified alcohol, five to ten drops at a time. After three injections, the disease yielded. It is necessary to surround the parts with cotton or wool, saturated in an alkali, to escape injury from the bromine.

Incubation of Yellow Fever.—(By Dr. Ledesma, *Revista Medico Quirurgica*, Buenos Ayres, No. 11, 1878.) The cases already mentioned (in December number) show the importance of quarantine. The cases now furnished show also the contagious character of the disease, and the indefinite incubative period. The bark Guiscardo sailed from Rio de la Plata, remained in Rio Janeiro during the yellow fever. On arriving at Bahia, several Italian sailors were sick (but not with yellow fever), and were sent to the hospital. Forty-four days afterwards, *yellow fever* appeared. In Buenos Ayres, in 1871, physicians attending the yellow fever in February were taken down with the disease four months afterward. The bark Anna Maria, which resisted yellow fever in Havana, had the disease seventeen days after leaving that port, while on the coast of Florida.

Analogous to this was the bark Sousovia, having cholera seventy-six days after sailing on the ocean.

The English traveler, Dr. Hiron, who went to La Plata for health, touched at Rio Janeiro going and returning to London. He was taken down with the yellow fever.

Among German emigrants to Chili and Peru, from Rio Janeiro with yellow fever, on reaching Cape Horn, the disease ceased, but on reaching the warmer climate to which they were going, the disease again reappeared. The bark Maria de Gloria sailed from Rio Janeiro in 1874, where the fever prevailed, for Lisbon. After remaining several weeks in Europe for emigrants, on her return to the torrid zone, the disease appeared.

This disease has no distinct time for removal. The Sanitary Conference of Paris, in 1852, fixed from five to seven days for quarantine against yellow fever, and from three to five against Asiatic cholera. In Constantinople, in 1865, the time was fixed at ten days. The rule here is fifteen days quarantine for the person, twenty days for the vessel, and thirty days for the cargo; but unless disinfection is thorough one hundred days may not be sufficient.

(The only cases of yellow fever at Alexandria and Louisiana were in the family of a man who *smuggled* a pack of coffee. All the family took the disease and died.)—TRANS.

Diphtheria—Its Treatment.—M. Goldschmidt with M. Kear presented (*Gazette Medicale de Strasbourg*) papers on diphtheria before the Strasbourg Society. In fifteen days, the disease spread very rapidly, going through several families, presenting the usual symptoms. The treatment varied somewhat with each case—by perchloride of iron, followed by a spoonful of coffee; also, by syrup of eucalyptus, phenic acid, pure iodine, iodide of potassium and glycerine. In those cases with high fever, salicylate of soda was used, which, doubtless, acts as sulphate of quinine, but is rarely given. M. Weiger states that he uses, locally and internally, flower of sulphur, and also nitrate of silver locally. He had fifteen cases; all recovered. M. Goldschmidt thinks that when twenty cases are successfully treated, the presumption is in favor of the mode adopted. [This is not necessarily true. An English doctor in Australia treated, successfully, fifty cases of scarlet fever, and thought he had found the cure for the disease; but of the next thirteen cases, seven died.—*Translator.*]

Camphor for Mania, Hysteria, etc.—Witsch has many times administered camphor in certain kinds of mania, hysterics, hypochondria; and under some circumstances, the anodyne effects were much better than chloral, morphia, or bromide

of potassium. He administers camphor by hypodermic injections. The sedative effects are very rapid, and profound sleep continues several hours.—(*Courier Medical.*)

Paris Hospitals—*Number of Beds*, 15,345, as follows:

Hopice de la Salpetrière,	3731 beds.	Hospice de Becètre,	2334 beds.
Nouvel Hotel Dieu,	426 "	Hopital des Cliniques,	159 "
Hopital de la Charité,	504 "	" de la Pitie,	709 "
" Lariboisière,	670 "	" Sainte Antoinè,	594 "
" de Mènilmontant,	650 "	" Necker,	418 "
" Beaujon,	416 "	" Cochins,	211 "
" Feruforaire,	520 "	" Sainte Eugénie,	346 "
" des Enfans Malades,	518 "	" des Enfans Assistes,	320 "
" St. Louis,	823 "	" de Midi,	336 "
" de Lourcine,	243 ',	Maison d'Accouchement,	316 "
Asèle Sainte Anne,	750 "	" Municipale de Sante,	351 "

There exist, also, other establishments open to the public, such as Hospital for Incurables, House of Refuge for families, Rochesoncould's Hospital, St. Perinne Institution, Hospital of St. Bernard, &c., which, by reason of being on the suburbs of Paris, are not accessible to students of medicine.

The Medical Staff of the Hospitals physicians and surgeons; anatomists, students, internés and externés, and druggists. The internés for the first two years receive 500 francs; for the third year, 600 francs; and for the fourth year, 700 francs, and board in the hospitals; but if they do not board in the hospitals, they receive 400 francs. The vacancies for 1878 are between 35 to 40; the number of candidates, 288. The salaries of externés vary from nothing to 365 francs a year.

Besides the regular lectures at all these institutions, a Free Medical School has been opened this year (1878) with fifty lecturers appointed. Persons desiring to do so, can attend only the lectures on special diseases.

Students desiring to graduate as doctors, besides the usual requisites of *good moral character*, *etc.*, must obtain diplomas as Bachelor of Letters, and as Bachelor of Sciences, etc.

Other institutions at the different large towns in France, have similar regulations, and many hospitals, all open to medical students.

The Medical Schools of the United States, according to Prof. Pepper, number sixty-five, without counting the schools of homœopathy, eclectics, etc. Of these, there are fifteen which are useful practically. The other fifty are not only useless, but inaccessible to all improvement, and only fit to be suppressed. Less time is required to study medicine in American Medical Colleges than to study horse diseases in

the Parisian Veterinary Colleges. This defective system of American schools results, first, in increasing, outrageously, the number of doctors in America 1 to every 600 of the population, while in France, there is only 1 to every 2,000 persons; and secondly, in increasing degradation of medical pursuits. This is a grave state of things which the brilliant American surgeons, though rare exceptions, ought to know and fight against.

Analyses, Selections, &c.

Extraction of Foreign Bodies from the Ear.—Dr. J. Marion Sims read a paper on this subject in the Section of Surgery of the British Medical Association, in Bath, August, 1878, which is published in the *British Medical Journal*, December 13, 1878. He was surprised to see such a wide difference of opinion as to the removal of foreign bodies from the ear as was shown in the discussions going on a few months ago in the *British Medical Journal*.

In the summer of 1843, Dr. B. R. Jones, of Montgomery, Ala., asked Dr. Sims to see with him a little negro, five or six years old, who had some foreign body in the ear. The doctor had already made fruitless efforts to remove it with a bent probe and forceps. Dr. Sims repeated the operation with the same instruments, and with the same unprofitable result. The ear bled a little, and became so tender that we were obliged to desist. Dr. Sims carried on the next day a small syringe and a delicate pair of forceps from his eye-case. The child's ear was very tender to the touch, and the canal was tumefied and filled with coagulated blood. On the previous day, the foreign body was visible; but now it was obscured by the blood. Dr. Sims at first used the syringe for the sole purpose of washing out the blood, expecting then to remove the foreign body with the forceps. The syringe easily dislodged the blood near the outlet of the canal; but it failed to remove that in immediate contact with the foreign body. For the purpose of dislodging the blood, Dr. Sims caught hold of the lower lobe of the ear and pulled it outwards, so as to straighten the canal, and then injected water forcibly into the ear. Greatly to his surprise, the first jet of

water ejected the foreign body from the ear, and it fell on the ground fifteen or twenty inches from the patient. The foreign body proved to be a bit of cut-glass that had formed the ornament of a cheap finger-ring.

About a year after this, a negro man came to Dr. Sims, saying he had been deaf in one ear ever since childhood, and that with an ear-pick he had just discovered something hard in it. On examination he found the ear completely blocked up with some dark-colored substance that, to the probe, seemed to be of bony hardness. It was soon removed by syringing, and proved to be a cherry-stone, which the man now remembered to have pushed into his ear twenty years before, when he was a small boy.

This was the strongest test possible of the efficiency of this means of removing foreign bodies from the ear. For here was a perfectly spherical body, that completely blocked up the whole tract of the canal; and yet the small jet of water, thrown forcibly in, passed by and dislodged it, so that it was removed with ease. Ever since that, Dr. Sims has never failed to remove with facility any foreign body found in the ear, whether wax, insects, seeds, pebbles, or bits of wood.

The first article* he ever wrote for a medical journal was on this subject, and, as appropiate now, I quote from it the following.

"Whoever follows the loose direction of 'syringing the ear forcibly,' will often be disappointed. A sufficient explanation of this may be found in the anatomical peculiarities of the organ. The course of the meatus is curved, running at first forwards and upwards; then downwards and backwards; its concavity looking obliquely downwards and forwards. It is an inch and a quarter or more in length; about a quarter of an inch in its transverse diameter, a little more in the perpendicular direction, its section being oval. Its dimensions vary, being a little contracted at the orifice, still more so in the centre, which is the narrowest part, and again at the tympanum. The anterior semilunar edge of the concha, leading into the meatus, projects considerably below a line forming a tangent with the convexity of the lower wall of the canal. With the obliquity of this canal and its irregular dimensions, it will be found difficult, if not quite impossible, to throw a stream of water with any degree of force against the tympanum, even when the organ is unobstructed; for, if the nozzle of the syringe be directed

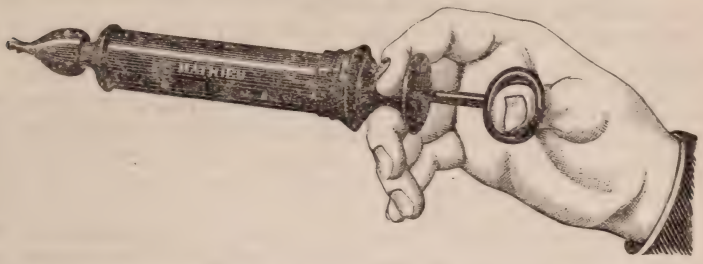
*Extraction of Foreign Bodies from the Meatus Auditorius Externus. By J. Marion Sims, M. D. (*American Journal of Medical Sciences*, April 1845, page 336.)

paralled with the tragus, the force of the injection will be spent against the anterior interior wall, or convexity of the floor of the canal; if turned more towards the semilunar ridge of the meatus, its power will be lost on the posterior superior wall, or convexity of this tube. But, let us change the direction of the canal by laying hold of the lower portion of the anti-helix, pressing the dorsum of the concha forwards while we put the whole organ forcibly on the stretch, pulling it outwards, upwards, and backwards, thus making the meatus a straight channel of uniform diameter, and then it will be found comparatively easy to throw a stream of water to its very bottom. If the foreign body be small, the water will dislodge it as it rebounds from the tympanum; if it be large, plugging up the passage perfectly, two or three injections properly directed (the ear held as described) will be certain to change its relative position sufficiently to allow the next to pass by, impinge on the membrana tympani, and wash it out in its retrograde course, or so far dislodge it as to bring it within reach of the forceps. The syringe that I use holds about four drachms of water. The nozzle is of small diameter and the piston is perfectly air-tight. Water, thrown from it suddenly and forcibly, does not pass in a long slow continuous stream, but seems to strike, as it were, all at once and with great power. A syringe of small dimensions is preferable to a large one; because, with a small one having a small tube, the stream may often pass undivided by the foreign substance, so that its reflex action is almost as strong as its direct force. On the contrary, in a large syringe with a large tube, throwing a larger volume of water, a small portion only of the stream may pass behind the foreign body, while a larger portion strikes against it in a direct line with greater momentum, thus counteracting the retrograde force."

So universally successful has Dr. Sims been in removing foreign bodies from the ear, that he was surprised that the same unfailing success did not attend the efforts of all other surgeons. He felt anxious to ascertain the reason of this. To this end, he went to three of the most renowned instrument-makers in London, and asked to see the best ear-syringes they had; and they showed large clumsy metal syringes, with large nozzles, throwing a stream of water large enough for a rectum syringe. He then went to some of the best instrument-makers in Paris, and found just the same sort of ear-syringes as in London. It was then plain that the fault was not in the principle, but in the clumsy and unsuitable instrument used.

The ear-syringe that we use in America is made of hard-rubber, holds only about four drachms, is light, and worked with one hand, while the other is used to straighten the canal by pulling the ear outwards, as above described.

[Here the writer showed several ear-syringes, and contrasted them with the small hard-rubber syringe.]



The cut represents the American hard-rubber ear-syringe, and the method of using it with one hand. It is two and a half inches long, the same in circumference, and holds about half an ounce. The orifice of the nozzle is one *millimètre* in diameter. A larger ear-syringe, one holding an ounce, is made by the American Rubber Companies; but Dr. Sims prefers the small one, as it throws a smaller stream of water.

The easy removal of foreign bodies from the ear depends upon two things that are indispensable:

1. A light small syringe, with a small nozzle, throwing a small jet of water suddenly and forcibly.

2. The auditory canal must be made straight, by traction outwards of the lower lobe of the ear, at the moment of injecting water into it.

With these simple directions, failure is impossible.

Book Notices, &c.

[Our book-notices this month are necessarily paragraphic, as our columns are crowded just now.]

Differential Diagnosis—A Manual of the Comparative Semiology of the More Important Diseases. By F. de HAVILLAND HALL, M. D., Assistant Physician to Westminster Hospital, London. American Edition, with Extensive Additions. Philadelphia: [Dr.] D. G. Brinton, 1879. 8vo. Pp. 205. (From Publisher.)

We have examined this work closely, and give it our cordial endorsement so far as it goes. We simply wish there were more of it, so as to state in the same tabular form the differential diagnosis of other diseases not referred to in the book. After an Introductory, Part I is taken up with the Fevers, and Part II with Local Diseases. Dr. Brinton deserves great credit for the carefully prepared "extensive additions" which have been made; and especially for

giving preference, in his "additions," to American authorities, "as every year adds confirmation to the opinion, now widely received, that diseased conditions assume very different aspects under different climatic and sociological conditions."

The book is gotten up in nice style, and is in the form of a manual.

Stricture of the Male Urethra—Its Radical Cure. By FESSENDEN N. OTIS, M. D., Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York. New York: G. P. Putnam's Sons, 1878. 8vo. Pp. 352. (For sale by West, Johnston & Co., Richmond.)

This book is exceedingly valuable to every practitioner, as each one meets with cases of stricture of the urethra. We cannot, in these few lines, attempt to discuss critically what we think is perhaps a too broad statement, nor attempt to detail cases, not only in our own practice, but in the practice of some of our acquaintances, which up to the present date, lead us to think that dilatation of strictures by the bougie simply has apparently resulted in cures—at all events, no trouble is experienced—the patient not being conscious of discomfort or lessened size of stream, etc. We do not say that such good result is the rule; but we do think cases are sufficiently frequent in the practice of some of the older doctors, especially, in which simply dilatation was used, where cures have resulted, although Dr. Otis denies that cures have resulted except after an operation. But Dr. Otis is so generally in accord with usual experience, and besides, so well describes operative procedures of his own devising, that may be necessary in treating strictures, that we most cordially recommend this book to professional confidence.

An Introduction to Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D., London, F. R. C. P., Physician to Charing Cross Hospital, and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital Medical School, etc. 3rd American, from 4th Revised and Enlarged English Edition, with 132 Illustrations. Philadelphia: Henry C. Lea. 1878. 8vo. Pp. 331. (For sale by West, Johnston & Co., Richmond, Va.)

This book is a great aid to any one who seeks a knowledge of the diseased conditions to which reference is herein made. In fact, every student of medicine—whether he be attending lectures at a college, or a practitioner of medicine—should have such a book in his library, as it will prove of frequent use. An understanding of the pathology or morbid anatomy is a material help to comprehend the development and persistence of symptoms, and thus to apply his remedies intelligently.

The present edition is a thorough revision of all former editions, and many useful additions of text and illustrations have been incorporated. The illustrations are all original—prepared from drawings by Mr. Collings from Dr. Green's own microscopical preparations.

Notes on the Treatment of Skin Diseases. By ROBERT LIVEING, A. M., M. D., Cantab., F. R. C. P., London, lately Physician and Lecturer to Middlesex Hospital, and Physician in Charge of the Skin Department. 4th Edition, Revised and Enlarged. New York: Wm. Wood & Co., 1878. 12mo. Pp. 127. (For sale by West, Johnston & Co., Richmond.)

This is a little hand-book of real use to every practitioner. Each edition has been improved on until now it should be regularly consulted whenever any dermatological question is raised. Dr. Liveing has a reputation for proficiency in this specialty that makes his opinion authoritative. Besides the description of diseases, and general directions as to treatment, this book contains a large number of recipes that the author has personally used and recommends. A glossary also is appended to the book.

An Atlas of the Human Body, Illustrating Most of the Ordinary Dissections, and Many not Usually Practised by the Student—Accompanied by an Explanatory Text. By R. J. GODLEE, M. S., F. R. C. S., Assistant Surgeon to University College Hospital, and Senior Demonstrator of Anatomy in University College. Part I. Philadelphia: Lindsay & Blakiston. 1878.

This is a magnificient work and one of great use to every practitioner. It will "be completed in twelve or thirteen bi-monthly Parts, folio size, each Part containing four large plates, two [colored] figures in each plate, each plate faced by a page of references, and each Part accompanied by an octavo Part, containing the "Explanatory Text." The whole will form, when completed, a large *folio* volume of plates, and also an *octavo* volume of from 300 to 400 pages of Explanatory Text. Price of each Part (including plates and corresponding text) $2.50. The work is of *especial* advantage to those practitioners who are not within reach of dissecting material, such as those who practice in towns and rural sections. Nothing can take the place of such plates, with the explanatory text, except an actual systematic course of dissections.

Atlas of Skin Diseases. By LOUIS A. DUHRING, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part IV. Philadelphia: J. B. Lippincott & Co. 1878. Price $2.50 per Part.

In noticing all three former Parts, we have most cordially commended this Atlas. We now commend this fourth Part even more cordially. The plates are unequalled by any that we have ever met with; and Dr. Duhring, in his clinical notes of the diseases, exhibits a wonderful conciseness and exactness in description. This Part, as usual, is on royal folio, and contains four chromo-lithographs, illustrating respectively, with accompanying text, 1, Vitiligo; 2, Alopecia Areata; 3, Tinea Favosa; and 4, Eczema (Rubrum).

Studies in Pathological Anatomy. By FRANCIS DELAFIELD, M. D., Adjunct Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York; No. 3, April, 1878; also No. 4, May, 1878. New York: Wm. Wood & Co. 1878.

We have already, in noticing Nos. 1 and 2, had occasion to commend these "Studies," which are published in monthly Parts, each Part containing from two to five full royal octavo page lithographic plates in tint and in color, with accompanying explanatory text. "These studies will form, when completed, a treatise on Pathological Anatomy of exceptional value, especially for the remarkable fidelity of the illustrations—their minute and elaborate detail."

No. 3, of the "Studies" before us, treats of the "Inflammations of the Pleura; No. 4, of "Empyema." We have not received any later copy than the one last mentioned.

A Practical Manual of the Diseases of Children, with a Formulary. By EDWARD ELLIS, M. D., late Senior Physician to the Victoria Hospital for Sick Children; late Physician to the Samaritan Hospital for Women and Children, etc. 3rd Edition. New York: Wm. Wood & Co. 1879. 8vo. Pp. 213. Price $1.25. (From Publishers.)

The popularity of this work (which is the second of Wood's Library of Standard Medical Authors) is manifest from the fact that the first edition was issued in 1869 in London; this (the third London edition) was issued about a year ago in London, and is now accepted authority in England, Australia, America, &c. It is a very practical and useful book, and supplements very well Dr. J. Lewis Smith's book on "Diseases of Children." Dr. Ellis' book, however, was issued late enough to have mentioned the value of jaborandi in post-scarlatinal dropsy; the value of amyl-nitrite in overcoming the particularly severe spasms of whooping cough that seem to threaten life; and so on. These and other recently *established* remedies should have been suggested in such a work issued as late as 1878. But the special value of Dr. Ellis' book is to be found in his descriptions of diseases, detailing their natural history, the complications, sequelæ, etc.

Second Edition of Annual Medical Directory of the Pacific Coast. By WM. A. GROVER, M. D., of San Francisco, Cal. Late Recording Secretary Medical Society of the State of California. San Francisco; 1878. 8vo. Paper. Pp. 72, besides numerous advertisements. Price $1.

This Directory is most useful to all who have dealings with the medical profession of California, Oregon and Nevada. The Preface contains a brief synopsis of the history of the medical laws of California. On pages 57 *et seq.*, some very instructive remarks, by Dr. W. B. Cardwell, of Portland, Oregon, are published, on the "*Climatology of Oregon.*" On

pages 60 *et seq.*, Dr. Henry Gibbons, of San Francisco, gives a paper on the "*Climatology of California.*" On pages 63 *et seq.*, the fee bills of San Francisco, Alameda County, and Chicago are respectively given. Pages 69–72 detail a paper on *Urinalysis*, by Dr. W. T. Wenzell, Professor of Chemistry in the Medical College of the Pacific, etc. The editor has shown great industry and zeal, and has done a useful work in getting up this Directory.

Clinical Diagnosis. Edited by JAMES FINLAYSON, M. D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary, etc. With 85 Illustrations. Philadelphia: Henry C. Lea. 1878. 12mo. Pp. 546. (For sale by West, Johnston & Co., Richmond.)

We have read this book with very great interest and profit. It is an essential "hand-book for students and practitioners of medicine." Several distinguished authors have written up, or revised with full additions, the chapters relating to their specialties. It is the best book on clinical diagnosis that we have ever seen. Had we the space to spare, it would well repay our readers to reproduce some of the chapters in our pages. But we must content ourselves with the statement that the work is authoritative, and should be owned for frequent consultation by every practitioner.

PAMPHLETS RECEIVED, for which we have no room for further acknowledgment:*

True and False Experts. By EUGENE GRISSOM, M. D., LL. D., Superintendent Insane Asylum of North Carolina, Raleigh. (Reprint from *American Journal of Insanity*, July, 1878.) To which is appended a Rejoinder to Dr. Hammond's "Open Letter," with a Postcript. Pp. 51. [The original paper of Dr. Grissom condemned the inhumanity of Dr. William A. Hammond, of New York, who affirms that an *insane* person who has committed murder, or other like offence, should be dealt with by the courts as other criminals. So long ago as October, 1874 (page 446), we expressed our views on this subject. Dr. Hammond's opinions outrage the common instincts of humanity, and his recommendation is cruel and dangerous, and should be denounced publicly as well as privately. Fortunately, we do not believe his opinion will hereafter have weight in court.]

The Testimony of Medical Experts. Annual Address of W. H. PHILLIPS, M. D., Kenton, O., Retiring President Ohio State Medical Society. Pp. 24.

Are Inebriates Automatons? By GEORGE M. BEARD, M. D., New York, N. Y. (From *Quarterly Journal of Inebriety*, December, 1878.) Pp. 12.

*Most of these papers can be secured by enclosing a postage stamp to each of the authors named in connection with papers whose titles are given.

Studies on the Laws of Life. Reviews of various essays by Dr. NATHAN ALLEN, Lowell, Mass., on the Principles of Physiology as Applied to Education, Health and Changes in Population. Pp. 32. [Should sufficient interest be manifested, a volume of the papers herein mentioned may be published hereafter.]

Address before the American Medical Association at its Twenty-Ninth Annual Session, at Buffalo, N. Y. By T. G. RICHARDSON, M. D., of New Orleans, President of the Association. (From *Transactions American Medical Association.*) Pp. 21.

Fifty Years Ago. Address to the Graduating Class of the Medical College of the Pacific, 1878. By HENRY GIBBONS, Sr., M. D., San Francisco, Cal.

Functions of the Anal Sphincters, so-called. Illustrated. By JAMES R. CHADWICK, M. D., Boston, Mass. (From Vol. II, *Gynæcological Transactions.*) Pp. 14.

Cases of Double Uterus and Vagina. By same author. Pp. 7.

Pelvic Curve in the Shank of the Obstetric Forceps. Illustrated. By RICHARD A. CLEEMAN, M. D., Vice-President of Philadelphia [Pa.] Obstetrical Society. (From *American Journal of Obstetrics, &c.*, April, 1878.) Pp. 9.

Lacerations of the Cervix Uteri. Address in Obstetrics before the Medical Society of the State of Pennsylvania, 1878. By WILLIAM GOODELL, A. M., M. D., Clinical Professor of Gynæcology in the University of Pennsylvania, Pa. Pp. 16.

Strictures of the Cervical Canal. By A. FREDRIK EKLUND, M. D., Upsal, Stockholm, Sweden, Emeritus Accoucheur to the General Lying-in Hospital of the Carolinian Medico Chirurgical Institute of Stockholm, etc. Translated from *Nordiskt Medicinskt Arkiv.*, Band 8, heft 3. By A. SIBLEY CAMPBELL, A. B., M. D., of Augusta, Ga. (From *Atlanta Medical and Surgical Journal*, August, 1878.) Pp. 46.

Epithelioma of the Cervix Uteri—Amputation with Paquelin's Thermo Cautery. By H. P. C. WILSON, M. D., Vice-President American Gynæcological Society, etc. (From *Maryland Medical Journal*, December, 1878. Pp. 8.

Uterine Pathology and Treatment. By R. E. BEACH, M. D., Vandalia, Ill. (From *Illinois Medical Recorder.*) Pp. 9.

Sterility and its Treatment. By WILLIAM H. WALTHEN, M. D., Clinical Lecturer on Diseases of Women and Children, Louisville [Ky.] Medical College, etc. (From *Transactions Kentucky State Medical Society*, 1877.) Pp. 11.

Obstetric Forceps: When and How to Use It. By GEORGE J. ENGELMANN, M. D., St. Louis, Mo. Fellow American Gynæcological Society, ect. Pp. 9.

Battey's Operation: Three Fatal Cases, with Some Remarks upon the Indications for the Operation. By same author. (From *American Journal of Obstetrics, etc.* July, 1878.) Pp. 35.

Hystero-Neuroses, with Especial Reference to the Menstrual Hystero-Neurosis of the Stomach. By same author. (From Vol. II *Gynæcological Transactions.*)

Editorial.

Wanted.—Thirty cents cash, or two months subscription will be paid to any one who returns to this office, *in good condition*, a copy of each of the following numbers of the MEDICAL MONTHLY: *November No.*, 1874; *April No.*, 1875; *November No.*, 1878; and *December No.*, 1878.

Tape Worm Impostor.—The New Haven, (Conn.) *Sunday Register*, of January 12th, 1879, deserves the thanks of the profession for exposing the facts connected with a certain "Dr. and Mrs. Dr. Burner," who was an auctioneer in Norwalk, Ohio, until a few years ago, when he assumed the functions of a quack doctor. This scoundrel of a man, it seems, has a diploma from the Royal College of Physicians and Surgeons of London, England, which he obtained by forgery. He has been run out of Elmira, N. Y., Kalamazoo, Mich., New Haven, Conn., and other places by exposure of his imposture; and now we are informed that this Doctor intends making a trip South where he may attempt his fraud. A word in time may save some Southern or Western community some annoyance. A full account of this rascal is given in the paper named above, a copy of which can no doubt be obtained by addressing that paper, or further information may be had by addressing Mr. S. A. Hubbard, managing editor of the Hartford, [Conn.] *Courier*.

Dr. Harvey Black has been re-elected Medical Superintendent of the Eastern [Va.] Lunatic Asylum, at Williamsburg. While the Doctor has every reason to congratulate himself in that he received the unanimous vote of every *physician* connected with the Board of Directors, still it is a shame that his position and the good of the State have been imperilled by a majority of non-medical men who compose the Board, and who have no just idea of medical ability. Because of the pressure brought to bear upon some of the Board who are not doctors to displace Dr. Black by voting for another graduate in medicine who, in the opinion of the profession of the State, is not so well qualified to occupy this special trust, these members of the Board are deserving of the special thanks of the profession and of the people at large. The appointment of medical men to public institutions should be left to the vote of medical men. None are as well able to judge of medical merit. We refrain from asking the resig-

nation of certain members of the Board of Directors who have caused more trouble than they have done good. We simply ask them hereafter to leave the decision of medical matters to medical men.

Dr. John C. Clopton was also re-elected Assistant Physician.

Sanitary Legislation by the General Government.—It gives us much pleasure to place on record our cordial approval of the subjoined paper setting forth the conclusions of the Executive and Advisory Committees of the Public Health Association on the needs of sanitary legislation by the National Government.

We understand that prior to the conference between the two committees, one or more bills had been introduced in Congress and appropriately referred, which were found to be extremely objectionable, as having been evidently conceived in the interest of particular individuals, to whom dictatorial powers were to be confided. To counteract these schemes of personal ambition, and to endeavor to "secure such legislation as will best protect the health of the whole country," the following memorial was drawn up, and received the unanimous concurrence of the members present at the conference:

MEMORANDUM OF THE AMERICAN PUBLIC HEALTH ASSOCIATION ON LEGISLATION AFFECTING THE PUBLIC HEALTH.

Whereas;—the American Public Health Association at its late meeting at Richmond, Va., provided for the appointment of a Committee to advise with the Executive Committee with regard to matters of legislation coming before Congress, during the present session, which relate to the subject of Public Health; and whereas, the Association instructed the Executive Committee to exert its influence to secure such legislation as will best protect the public health of the whole country;

And whereas;—the Executive Committee in conjunction with the Advisory Committee have duly considered the various resolutions presented to the Association, and the present condition of propositions for National Sanitary Legislation;

Now, therefore, we, the undersigned, Officers and Members of the Executive Committee and of the Advisory Committee on Legislation of the American Public Health Association, do hereby declare our opinion to be as follows:

I. That while under ordinary circumstances the Association as a Scientific Body should hesitate to take the initiative in urging any specific legislation, yet at the present time it is expedient to state as precisely and definitely as possible our views as to what action should and should not be taken by Congress with regard to the Public Health, seeing that we believe there is great danger of unsatisfactory action on this subject from want of proper and sufficient information.

II. That in view of the great diversity of opinion, among those who attempt to judge, as to methods of quarantine, and especially as to the relations which should exist between national and local systems of quarantine—of the fact that we have not as yet sufficient information to enable us to formulate any system of National Quarantine which might not do more harm than good;—and of our belief that there is a possibility of recurrence of Yellow Fever in the United

States during the coming summer, from causes which may have survived from last summer, and which therefore cannot be prevented by any system of National quarantine alone;—we believe that any legislation, until further investigation has been made, with regard to a National Quarantine, either to provide a new law or to amend or enforce the present one, will be inexpedient and unwise.

We wish, however, that it shall be distinctly understood that we are not opposed to a National Quarantine System, if carefully elaborated and placed in proper connection with State and Municipal Sanitary Organizations, but we are well satisfied that it is impossible to organize such a system at the present time.

III. That it is highly desirable that Congress shall during the present session provide for the proper organization of a Provisional National Health Commission.

IV. That the objects and duties of this Commission should be as follows: *A.* To report to Congress at its next session a plan for a permanent National Public Health Organization, said plan to be prepared after consultation with State Boards of Health, and with all those who possess special knowledge or experience bearing on this subject. This plan should include one for a National System of Quarantine. *B.* That it should take charge of any investigations into the cause and means of prevention of Yellow Fever or other epidemic diseases which may be referred to it by Congress, selecting experts for that purpose so far as may be necessary.

One of these investigations, at all events, should be made at some point where Yellow Fever is endemic, and by experimental methods, as suggested in the report of the Committee on the General Report of the Yellow Fever Commission, presented at the last meeting of the Association.

We do not think that this Commission should be burthened with any administrative duties which are not connected with the investigations just referred to, and it should in no manner be dependent upon, or be connected with, any existing bureau or department of the government.

V. That it is of the greatest importance that this Commission should be composed of men well known for their scientific attainments and knowledge of Public Hygiene. They should be persons with whom all scientific and professional men of the country will be glad to co-operate and advise; to whom no suspicion can attach that they might consult personal interests or ambition rather than the public good, and whose opinions, when presented after due deliberation, will command the respect, if not the assent, of all well-educated men. Such persons are not common, yet we are well satisfied that they exist, and that their services can be procured for this very important work.

VI. That the proper selection of these men is a matter of difficulty, and one which will require the greatest care. They can only be selected by some man or body of men competent to judge of their scientific attainments and special fitness. Political or local considerations should have no weight in this matter, nor, unless there are grave legal or constitutional objections, should any officer of the Government be burdened with, or allowed to assume the responsibility of, selecting them. After careful consideration of various plans proposed to sucere this end, which is felt by all to be vitally necessary to success, we are of opinion that the simplest and surest method, and the one which will command the most general approval among the scientific and professional men of the country, is that Congress should request the National Academy of Sciences to designate the Members of the Commission.

VII. That the number of persons in the Commission should not be less than 7 nor more than 9, that they shall elect their own officers, and that their compensation should not be less than ten dollars per day for each and every day that they are engaged in the work of the Commission, besides their traveling expenses. That the Commission shall be authorized to employ such clerical force as may be necessary to carry out its work, and that the Commission shall fix the rates of pay of its employees and of the experts which it may select and employ.

VIII. That an adequate appropriation should be made to meet the expenses of the Commission and of the investigations which may be placed under its direction.

IX. That upon the request of the Commission, the Secretaries of War, of the Navy, and of the Treasury or other Departments, and the Attorney General shall be authorized to detail officers from their several Departments to aid in the investigations undertaken, the number so detailed not to exceed three from any one Department at the same time.

X. That it is highly desirable that there should be added to the Standing Committees of the Senate and House of Representatives, a Committee on Public Health.

XI. We are entirely convinced that the future of Public Hygiene in this country depends mainly upon the proper organization of State and Local Boards of Health, and upon such recognition of their importance and utility by the people and their legislators that the necessary means and powers shall be granted to them to enable them properly to perform their duties. We believe that the General Government can do much to stimulate and encourage the formation of such Boards, and that an important part of the duty of the Provisional National Health Commission which we have recommended, will be to point out what can best be done to forward this object.

Such Boards can do good work, not only for their own locality, but for the Nation, and if the Nation will pay for this work, it will be most cheerfully done, especially if a proper Central Health Organization be arrived at, with which they can co operate, as we hope and believe will be the case if the plan which we have suggested be carried out.

XII. In conclusion, we would state that in our opinion the true interests of Public Health and of Sanitary Science in the United States are in grave danger at the present time, and that it is the duty of all professional and scientific men, both as individuals and as members of learned societies, to endeavor to prevent premature legislation which is now threatened, but which we believe the great majority of our National Legislators will oppose if properly informed upon the subject.

(Signed)—OFFICERS:—James L. Cabell, M. D., Professor University of Virginia, President, John S. Billings, M. D., Surg., U. S. Army, First Vice-Pres't, Edward H. Janes, M. D., Health Dept. New York City, Secretary, Henry B. Baker, Sec. State Board of Health, Michigan, Treasurer.

EXECUTIVE COMMITTEE:—C. B. White, M. D., Ex-Pres't State Board of Health, Louisiana, T. J. Turner, M. D., Medical Inspector, U. S. Navy, E. M. Hunt, M. D., Secretary State Board of Health, New Jersey, J. D. Plunkett, M. D., President State Board of Health, Tennessee, C. F. Folsom, M. D., Secretary State Board of Health, Massachusetts, C. D. Hewitt, M. D., Secretary State Board of Health, Minnesota.

ADVISORY COMMITTEE:—H. I. Bowditch, M. D., President State Board of Health, Massachusetts, and President of the Committee, J. M. Toner, M. D., Ex-Pres't American Public Health Association, and Vice-President of the Committee, John Eaton, United States Commissioner of Education, Secretary of the Committee, E. M. Snow, M. D., Superintendent of Health, Providence, R. I., G. P. Conn, M. D., Secretary New Hampshire Medical Society, G. C. Chamberlain, M. D., Secretary State Board of Health, Connecticut, H. D. Holton, M. D., Professor University of Vermont, Dorman B. Eaton, LL. D., New York, J. H. Taylor, M. D., Medical Inspector Board of Health, Philadelphia, T. F. Wood, M. D., Secretary State Board of Health, North Carolina, L. S. Joynes, M. D., Secretary State Board of Health, Virginia, Robert Lebby, M. D., Health Officer, Charleston, S. C., J. G. Thomas, M. D., President State Board of Health, Georgia, R. D. Webb, M. D., President State Board of Health, Alabama, T. A. Atchison, M. D., Professor Vanderbilt University, Nashville, Tenn., R. G. Jennings, Secretary State Medical Society, Arkansas, J. E. Reeves, M. D., Wheeling, W. Va, T. C. Minor, M. D., Health Officer, Cincinnati, Ohio, George Sutton, M. D., Aurora, Indiana, John T. Hodgen, M. D., Professor St. Louis Medical College, St. Louis, Mo., H. O. Hitchcock, M. D., Member State Board of Health, Michigan, D W. Hand, M. D., President State Board

of Health, Minnesota, JOHN H. RAUCH, President State Board of Health, Illinois, E. L. GRIFFIN, President State Board of Health, Wisconsin, B. F. GIBBS, M. D., Medical Inspector, U. S. Navy, T. A. MCFARLIN, M. D., Surgeon, U. S. Army, J. P. WALL, M. D., Tampa, Florida.

Medical College of Virginia--Spring Session.—Medical students should avail themselves of systematic courses of study at colleges, as in every particular superior to office pupilage. In a college course of lectures, the labor is divided between a number of lecturers, who can better perfect themselves in their respective departments than is possible for one man to do in all. There are at the colleges special advantages of the dissecting room, charts and drawings, means for illustration, etc., that a private practitioner does not have. All the clinical advantages of the winter session continue through the spring. Practical lectures are delivered by members of the winter Faculty, and by others specially selected for the purpose on special important subjects that could not be reached or dwelt upon during the winter session. An extra advantage of the Spring lectures is that they are more conversational in style, and thus more directly interest each individual student than is possible with the larger winter classes. Under the able management of Dr. M. L. James, the Spring and Summer Course of Lectures in the Medical College of Virginia offers special inducements to medical students. See advertisement.

Richmond Academy of Medicine.—At the last meeting in December, 1878, Dr. M. L. James was elected President, and Dr. Charles H. Brittan re-elected Secretary. At the suggestion of Dr. James on his coming into office, a valuable medical library is being developed. Authors of papers or books who have complimentary copies to dispose of cannot do better than to send them to the Librarian of the Academy of Medicine (Dr. E. T. Robinson for this year), Richmond, Va. We regret very much that we have not had the space for several months to spare to give proper reports of some of the recent proceedings.

Dr. Eugene Grissom has been re-elected Medical Superintendent of the North Carolina Insane Asylum, in Raleigh. At the meeting of the Board of Directors, Dec. 4, 1878 (Dr. E. Burke Haywood, of Raleigh, chairman), a resolution was adopted stating that the Board felt "proud of the manner in which Dr. Grissom has acted in this controversy" [between Dr. William A. Hammond, of New York, and himself].

New Medical Journals.—No. 1 (January, 1879), Vol. I of the *American Journal of Otology* is received, and cheerfully placed on our exchange list. It is a quarterly (80 pages) journal of physiological acoustics and aural surgery, edited by Clarence J. Blake, M. D., Hotel Berkeley, Boston, Mass., with a competent corps of assistants—foreign and home. It will prove to be a very valuable journal in the specialty named. Published by Messrs. Wm. Wood & Co., New York, to whom all subscriptions should be sent. Price $3 a year. Single number, $1.

The Archives of Medicine is a new bi-monthly journal, to begin February, 1879, announced by the Publishers, Messrs. G. P. Putnam's Sons, New York, to whom all subscriptions should be sent—$3 a year, or 60 cents for single number. *Specimen* numbers will be sent for 25 cents. The fact that Dr. E. C. Seguin is editor is guarantee that this will be an excellent journal. It will be in some respects a continuation of Dr. Brown-Séquard's "Archives of Scientific and Practical Medicine," and of the later publication of the "American Clinical Lectures," which was discontinued Dec., 1878.

Messrs. Putnam's Sons also announce that hereafter they will be the publishers of the *Archives of Ophthalmology* (price $4 a year), and also of the *Archives of Otology* ($3 a year), heretofore published as one journal, under the title of "Archives of Ophthalmology and Otology."

Obituary Record.

Thomas R. Brown, M. D., of Baltimore, Md., Professor in the College of Physicians and Surgeons, and President of the Baltimore Medical and Surgical Society, etc., died at his home January 27th, 1879. He was ranked among the leading physicians of his city, and his friends were numbered by the thousand. Appropriate resolutions were passed by all of the bodies with which he was connected.

Dr. Washington L. Atlee.—The Abingdon (Va.) Academy of Medicine, at a late meeting, passed a series of eulogistic resolutions regarding this great and good man. We regret that we have not the space to publish them as sent us in full—especially as one of the resolutions requests us to publish them. Suffice it to say, that his virtues and greatness are known the world over, and his death is a cause of mourning in every nation.

VIRGINIA
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VOLUME V—No. 12. WHOLE NUMBER, 60.

RICHMOND, MARCH, 1879.

Original Communications.

ART. I.—**Observations on Yellow Fever.** By HARVEY L. BYRD, M. D., formerly Professor in the Savannah Medical College, and Oglethorpe Medical College, of Georgia; late Professor in Washington University, and College of Physicians and Surgeons of Maryland, etc., Baltimore.

In view of the widespread interest existing throughout the country, in and out of the profession, resulting from the devastating epidemic of yellow fever that has so recently scourged and desolated so many cities and towns in our Southern States, and to "vindicate the truth of history," the following paper has been prepared. The subject is most deeply interesting and important to us all, whether we consider the circumstances connected with its introduction and spread in our country, the peculiarity of its visitation, the extent and terror of its ravages, or the loss of prosperity and wealth to the cities so recently the unfortunate victims of its visitation. Whether, indeed, it is regarded from a hygienic, etiological, pathological or therapeutical standpoint, it is of the profoundest interest, and certainly demands the earnest and careful thought and investigation of every physician who really desires the advancement of his profession, or regards the relief of human suffering and preservation of human life objects of great importance.

It is to be regretted that conflicting, and, in many instances, directly contradictory statements are on record by medical men, even up to a recent date, whose opinions, we

would be led to suppose, from their surroundings and opportunities for the study and investigation of the disease, ought to entitle their utterances to credence and respect. But interest, prejudice, or disposition to bend and accommodate ascertained facts to commercial wants and requirements, have all tended to render confusion worse confounded on almost all questions growing out of yellow fever investigations. From the days of the immortal Rush, the disposition of commercial men has been to repudiate medical opinions adverse to, or in conflict with, their views of the epidemical visitations of yellow fever in their communities. But, thanks to more careful study of those who have gone before, an earnest desire for truth, whatever it might be, has induced some to place on record their earnest and candid convictions, after thorough investigation of the disease. And much of its true nature and characteristics, as thus developed and understood, are now before the profession.

For a quarter of a century, yellow fever has been a subject of the deepest interest to myself; and during a decade of that time, it claimed as close attention and study as I have ever given to any matter whatsoever. At the bedside, on the cadaver, and from books, information was zealously sought, and the revelations of Nature carefully systematized and compared with the observations and statements of others. The consequence was that more satisfactory and correct views were reached in regard to its natural history, transmissibility, contagiousness, etc. It is gratifying in the highest degree to find those opinions and views reached by others in different, and in one instance, at least, remote fields of observation and experience; and that, too, by gentlemen of high and enlightened position in the medical profession. In making these statements, no arrogation of superior intelligence or greater industry than many others who have labored in the same field, is attempted; but the ground was most inviting, and the chances for a large yield of valuable fruit so promising of reward for the labor bestowed on its culture, that the work partook of pleasure and enjoyment in all its details, and hence the results.

Twenty-five years ago, yellow fever was regarded by some

prominent practitioners in our Southern cities as an aggravated or malignant type of bilious remittent fever, with increase of some of its graver symptoms. When inquiry was made in regard to its very rapid course and peculiar mode of termination, the answer was that the type of the remittent was more *congestive* than usual.

In an article on yellow fever, published in the *Charleston Medical Journal and Review*, volume X, page 329, May, 1855 (the year succeeding the terrible epidemic in Savannah, 1854) I used the following language: "I know little of the opinions of my cotemporaries, but I have formed my own. I believe, with a condition of the atmosphere *favorable* to its extension, it is as much a *contagious* disease as measles or small-pox." As proof of the *contagiousness* of the disease, the "parallelism" of exemption from *second* attacks of *other* contagious diseases was introduced; and in the same article, at page 333, occurs this language:

"From all the data I have been able to procure, this exemption or protection against a second attack is *equal* to that afforded by an attack of measles or small-pox against subsequent ones. Second attacks of these two last named diseases do occasionally occur, but the entire profession is aware they are exceptions to a rule. The *fact* that one attack affords protection against a subsequent one of yellow fever, is so well known and understood by the inhabitants generally, as well as by the physicians of our Southern cities, it would be supererogatory work to add much more in regard to it. Does not this *fact* (for fact it is) add additional weight to the statement of the contagious or transmissible character of yellow fever?"

In regard to the distinct character of the disease, it is stated at page 329 (same article) that—

"Yellow fever is a disease separate and distinct from the remittent form of fever which annually visits our Southern country, including our cities and towns, and it bears no more affinity to continued, typhus and typhoid fevers than it does to remittent or bilious fever, as it is called." "It is now regarded by the profession generally, that *malaria* is the source of all the forms of intermittent and remittent fevers we encounter in the Southern and Southwestern States. If this proposition be true, is it certain, or even probable that the poison which produces an intermittent will produce ty-

phus or typhoid fever? No one in the legitimate profession, at this time, entertains an idea that measles and small-pox result from the same virus, or that syphilis and gonorrhœa are one and the same disease. I apprehend that the laws which govern the physical world generally are not more unvarying in their operations than those which govern the system in a state of health, and influence it in the development of disease."

In the same article, a number of instances are mentioned in which the contagious character was unmistakable, and as clearly established as anything could be by the induction or recognized fact, and to which the reader is respectfully referred, should he desire further evidence upon this point. And it is finally shown, in a most conclusive manner, that *quarantine* affords the *only* sure prevention against the transmissibility and propagation of yellow fever.

The subject of the *importability* and *contagiousness* of yellow fever is referred to again in an article in the *Oglethorpe Med. & Surg. Journal*, volume I, page 287 (1858), written and published during the existence of the epidemic of yellow fever in Savannah in 1858, in which I use the following language: "I have every reason for believing the yellow fever epidemic of this year was imported into Savannah by the U. S. Mail Steamship 'Catawba,' of the Charleston, Savannah and Havana line, which received some repairs in the dry dock in the river, opposite the city, the latter part of July, and coaled at a wharf of the city on the 30th of the month ere her departure for Charleston." She came direct from Havana (where the yellow fever was prevailing) to Savannah for some slight repairs to her machinery. The steamer had sickness on board whilst at Savannah; and on August 28th, 1858, a letter was received from Prof. Wm. Hume, M. D., of Charleston, stating, "The day after her arrival (Catawba) in Charleston, she sent one of her men to the lazaretto, and it is to her men who came up to the city we owe the present (1858) epidemic." (See same Journal, vol. I, page 292.)

In the same article, page 300, occurs the following remarks:

"From careful analysis of all the information I have thus far been able to procure, I am led to the following conclusion

in regard to yellow fever, viz.: It is a disease *sui generis*—peculiar—bearing no closer relation to any other form or variety of fever than the affinity that may be said to exist between measles and small-pox, or that of any of the other exanthematous diseases, as dissimilar in their *essential* nature and characteristics; that it is capable of being transported beyond seas, etc." "As the foregoing conclusions admit of demonstration, it behooves us, citizens of Savannah, to consider well the following propositions, viz.: 1st. The propriety of prohibiting *all* commercial intercourse between Savannah and the West Indies or other infected ports *for the period of the year during which the temperature of our climate approximates that of those Islands*, and therefore favors the spread of the yellow fever germ, when once introduced amongst us; and 2d, Whether the *actual* and *prospective* losses sustained by the city, in money, during each epidemical visitation of yellow fever, is not far beyond *all* the wealth the commerce of the Indies brings to our seaport in a decade of years. I have said nothing of the suffering and loss of life, as neither of them can be weighed or estimated by *any* standard of money valuation."

I had the honor of reading a paper before the Epidemiological Association of Baltimore, when President of that body in 1873, on the subject of yellow fever, and I beg to present a brief *resumé* of the leading facts and conclusions reached in that paper, as published in the *Philadelphia Medical Times*, volume III, page 726. Before doing so, I may, I trust, premise, without appearing egotistical, that the facts therein contained have been fully sustained in *every* particular, by an able article in *Ziemssen's Cyclopædia of the Practice of Medicine*, to which attention will be called at a later period in this paper; and also most fully repeated and sustained in the reports of Prof. S. Choppin, M. D., of New Orleans, and others, in the *Virginia Medical Monthly*, December, 1878. (*Vide* proceedings of the late Public Health Association in Richmond, Va.) I said of the history of yellow fever in the *Philadelphia Medical Times*, August 16, 1873:

"Nothing concerning the source or origin of yellow fever can be obtained from the various names by which it has been recognized or described. They relate either to the place of visitation or invasion, or to some real or fancied pathological change of most frequent occurrence during the prevalence of

the disease, in an epidemic form. It was probably first introduced into Southern Europe, the West India Islands, and the continent of North and South America from the *west coast of Africa, its natal place.* Had European ambition for extended dominion and territory, or the avarice and cupidity of the New England slave trader, never attempted the invasion of the jungles of Western Africa, there is reason to believe that the hecatombs which have marked the visitations of the pestilence in the West Indies and on the shores of this continent, at least, would never have been known. The autochthones, or aborigines of those lands, knew nothing of the disease until brought to them by ships engaged in a most unholy commerce. As it is chiefly with the disease as it concerns us of the United States we propose to deal, it may be observed that the summer, or warm season of the year, is the period during which its visitations have prevailed epidemically, and been most destructive in their character.

"*Locality.*—As it is comparatively unknown in the country, and confined almost exclusively to cities and large towns, as an epidemic, and as in those cities and towns holding commercial relations with tropical countries it always establishes itself before interior localities become affected, the *importance of strict quarantine regulations in such commercial cities, during the hot season*, cannot be over-estimated.

"It might prove interesting, did time permit, to introduce the date of its visitation to the several cities of our country, and the duration and severity of the same; but we must pass on, merely mentioning a few of the principal cities in which it has prevailed, viz.: Boston, New York, Philadelphia, Baltimore, Norfolk, Wilmington, Charleston, Savannah, Mobile, New Orleans and Galveston. It will be observed that all the places named are seaport cities, or cities engaged in foreign commerce. From Charleston and Savannah it has been carried, when epidemic, to Beaufort and Blackville, S. C., and to Augusta and Darien, Ga.; from Mobile to Selma and Montgomery, Ala.; and from New Orleans to Natchez, Vicksburg and Memphis, on the Mississippi river, and other places of note, thus *proving that it is a transmissible disease.*

"*Season.*—With a protracted temperature in our seaboard cities, of from 80° to 90°F., the *introduction of the yellow fever germ, or fungus, will as certainly develop that disease in the unacclimated Caucasian*, as the introduction of the small-pox germ will give rise to that scourge in an unvaccinated community.

"*Cause.*—From what has just been stated, it will be seen

that we believe the disease to depend upon a *specific cause*, and that cause to consist of *organic matter*. This theory is sustained by a number of well-attested facts. Like much of the flora indigenous to hot climates, the yellow fever germ, or fungus, requires for its proper development and growth a certain continuous temperature. Eighty-five to ninety or ninety-five degrees of Fahrenheit is the temperature which experience has shown to be most favorable to the spread of yellow fever epidemically in this country; and, like exotic plants, when *exposed, the yellow fever germ is effectually destroyed by frost.* In the West Indies, and in the tropical districts of this continent, where the summer temperature is perpetual, these germs have become naturalized, so to speak, and the disease is there found to be perennial [in some of the cities located in this zone] by the continuous or frequent introduction of the unacclimated. The winters in all the seacoast cities of this country, except, perhaps, New Orleans and Galveston, are too cold for the yellow fever germs to be perpetuated; and they must, therefore, be re-introduced from season to season, in order to the production or development of the disease. It is a disease *sui generis*, as contagious under favorable circumstances, as small-pox, measles or whooping-cough. Assertions of this character are not made lightly, or without due consideration of their import and value. *It bears no striking resemblance to any other form of disease* and when once carefully studied at the bedside, and in the dead-house, can *never be mistaken* by an intelligent observer, *for any other affection or disease.* When *the important test* is applied that is recognized as of such *uniform value in other forms of contagious disease*, it will be found to respond with *much greater* emphasis and distinctness in yellow fever, *than in any other disease*, viz.: *One well-defined attack of yellow fever protects the survivor with almost absolute certainty* from a subsequent one.

"*Race.*—The *native* African is *exempt* from the disease as it has prevailed in this country, and even his descendants for four or five generations, in our Southern cities, enjoy great immunity from it. Dr. W. C. Daniel, a former distinguished practitioner in Savannah, states that in the year 1820, when yellow fever devastated that city, 'nearly 300 native Africans, recently captured on the coast by government vessels, were brought to Savannah, and remained there during the epidemic, and *not one of them took yellow fever.*' The writer has never seen a case of *black vomit* in a genuine negro, however long his ancestors may have resided in the South. The most

susceptible race is the Caucasian, and the purer the type the greater the liability to the contagion. The mulatto occupies, so far as susceptibility to the fever is concerned, an intermediate place between the Caucasian and African races—being less liable than the former, and more exposed to an attack than the latter—his liability or exemption being dependent on the greater or less amount of Caucasian blood, and so on—in the further admixture of the above races—the susceptibility or liability to the fever being in exact ratio to the amount of white blood in the individual.

"*Miasma*.—Marsh effluvium, the prolific source of intermittent and remittent or bilious fever, so-called, is not the source or cause of yellow fever. In certain districts and communities, where bilious fever is an annual visitant, and where its appearance is looked forward to with the greatest dread and apprehension, yellow fever is totally unknown. Take Georgetown, S. C., for example, which is situated in the midst of the rice-growing region of the Pee Dee and Waccamaw rivers. It has never suffered from a visitation of yellow fever, though on the coast, and only about fifty miles from Charleston. Yet in this notoriously insalubrious climate—though a bilious fever has scourged it more or less frequently since its early settlement with a violence, it was said, a few years ago, unsurpassed by any other town in the world except Alexandria, in Egypt—a case of yellow fever has never originated within its limits. Yellow and bilious fevers may exist or run *pari passu* for a time in certain localities; and from this circumstance, doubtless, the former idea of its *miasmatic origin* was conceived. This hypothesis is erroneous, as the two diseases differ as widely in their symptoms and pathological appearances as any other known diseases whatsoever.

"*Contagion*.—In the sense in which the term is usually understood, yellow fever is a *contagious disease*. Not only have the germs of yellow fever been carried from an infected to a healthy community by individuals, but even the clothes of persons on dying from the disease, have conveyed the germs, and infected, when exposed and handled, relations and friends in healthy communities hundreds of miles away. You may denominate the contagion of yellow fever a *contingent* one; but it is nevertheless a contagion."

The value of this paper will be further enhanced by the introduction of the observations and experience of others, whose opportunities for investigation and study of yellow fever give *their corroboration* and endorsement of the *princi-*

ples and facts it represents—a value, intrinsically more important, if possible, than their historical and chronological preservation in the literature of our science. In *Ziemssen's Cyclopædia*, volume I, page 480 (October, 1874), after speaking of the theories in vogue in regard to the causes necessary to the development of an epidemic of yellow fever, are these remarks, viz.:

"To bring about an epidemic of yellow fever anywhere, a series of conditions must be fulfilled, which are deducible from a comparison of the histories of single epidemics. These conditions are allied partly to the external circumstances of human beings; partly to those which are personal. Among the external circumstances are climate and terrestrial conditions, which must present a certain definite character. The mean temperature of the year must reach at least 72° or 77° Fahr.—such a temperature, in fact, as is always observed in the tropics, especially in the Antilles. It is, indeed, maintained by Griesinger, that the temperature *must be uniformly hot* for a considerable time (80° Fahr.)"

At page 490, it is stated, "Touching the terrestrial circumstances, it is particularly noticeable that the disease is chiefly developed in cities, and, moreover, in cities which have maritime commerce, whether they be upon the sea coast or upon important rivers. Here it is almost invariably in that quarter of the city lying nearest to the harbor, which is the first to be attacked in every new epidemic, etc."

After speaking of malarial influences on land and sea-going ships, the writer remarks (page 491):

"Still, though *all* the unfavorable conditions mentioned may have been developed on board in the *highest degree*, *the yellow fever has never yet been observed on a ship* which has not in some way *come into communication with the land*, or with *some other ship*, where the disease *already prevailed*."

On the same page, the writer says:

"As regards the influence of *race*, the history of every separate epidemic has established the fact that the *negro* race possesses an *almost* absolute immunity. Only such negroes were known to contract the disease as had lived for a considerable time in the temperate zone, thereby forfeiting their immunity, and had then returned into the yellow fever district shortly before an outbreak of the epidemic. Moreover, fatal epidemics *have been observed among the blacks on the west coast of Africa, where yellow fever prevails endemically*."

A full endorsement is thus given of my theory of the source from whence our calamitous epidemics *originally* sprang. On page 492, when speaking further on the subject of *race*, the writer says:

"The whites are *most exposed* to danger. Between the two, stand the *mixed races*, and in fact, those are just so much more subject to the infection, the more *white blood* flows in their veins, and the paler their skins are." "This susceptibility, however, gradually diminishes the longer these whites have lived in the tropics, in the regions where yellow fever is endemic; it is almost entirely extinguished if they have passed through an epidemic, even without themselves being sick, and it is finally *absolutely extinguished after once experiencing the disease.*"

As to the *cause* of the disease, it is stated on page 493, of the same article:

"Yellow fever is most probably produced by a *living* miasm, which has hitherto entirely eluded microscopic demonstration, but the existence of which is argued from very many facts. These seeds of disease, as soon as they become in any way established in a human organism, set up in it that diseased process to which we are accustomed to give the name 'yellow fever.'"

From the foregoing extracts, from Ziemssen, the reader is doubtless prepared to learn the following in regard to prevention of the disease. At page 510, of the same article, we read:

"The government ordinances must extend to a strict police supervision of the houses, streets and harbor, in places where the disease is endemic, and in other districts they must seek to prevent the importation of the poison, by the enforcement of quarantine regulations. It is not possible, absolutely, to prevent an introduction of the yellow fever poison, even by a strict quarantine. To accomplish this, the same judicious laws would have to be in force in all ports, and even then, it would be possible to establish communication between an infected ship and the shore by means of boats at unguarded points; and then there is *always a possibility* of conveying the poison by land from an infected port to one hitherto free, by means of goods sent by rail, or by means of the personal effects of the men. But this would, in any event, be only exceptional, and there need be no question that important protection is to be gained by wise quarantine."

On page 511, same article, as the caption of a most emphatic and important paragraph on *quarantine*, occurs this sentence, viz.:

"Every ship *must be subject to quarantine*, which has communicated with an infected port, or an infected ship, even if no case of disease has occurred on a voyage of some weeks' duration. That is to say, the human beings may possess no susceptibility to the yellow fever, may even remain healthy, and yet the poison of the disease conveyed in clothing, personal effects, cargo, or bilge-water, may have retained its capacity for infection."

The value of the foregoing extracts from *Ziemssen's Cyclopædia*, will be enhanced in the estimation of some readers, when informed that the author of the article on yellow fever (Dr. Fritz Haenisch), from which these excerpts are made, was a medical officer in the German Navy. As such, he had the opportunity of visiting the Mediterranean, Madeira, the West Indies, South and North America, the Azores and Portugal. (See *Ziemssen's Cyclopædia*, volume I, page vii.)

With a few gleanings from the December number of the *Virginia Medical Monthly*, in its report of the "American Public Health Association," this paper will be brought to a close. Prof. S. Choppin, a native of New Orleans, and President of the Board of Health of that city, is reported (at page 764) as saying, in his paper before the Association, that the yellow fever of 1878, was "brought from Havana to New Orleans, by the steamship Emily B. Souder.

"The experience of the present year, with regard to the efficacy of a *strict quarantine*, goes to sustain the theory of importation and portability of yellow fever. Witness Galveston, which has not developed a single case; witness Shreveport, Monroe, La., and Natchez, Miss., with their shotgun quarantines turning away pestilence; and witness, again, Mobile, which has certainly escaped an epidemic." "From the statement and facts given in the accompanying papers, it is an irresistible conclusion, that yellow fever is *not* an indigenous disease of Louisiana, or any other part of the United States; but that the many years when it has made its appearance in this country, it could be traced either directly or remotely to a foreign source." "The great object to be aimed at is to prevent the germ or fomites of this dreaded pestilence from having access to our people; and the only

certain and sure prevention of yellow fever, in my humble opinion, is *absolute non-intercourse* with ports where yellow fever is indigenous from the first of April to the first of November of each year." "Once eradicate this disease from the land, as it must necessarily be by our cold winters, and, mark my word, we will never again be visited by the terrible scourge unless introduced from abroad"

Dr. Choppin estimates the cost of the recent yellow fever epidemic to New Orleans at over $12,000,000, which we have no doubt is rather under than over the true amount.

Dr. W. G. Austin, also, member of the New Orleans Board of Health, and who has been familiar with epidemics of yellow fever in that city since 1839, after comparing the epidemic of that year with the one just past, says:

"In thirty-five years' experience in Louisiana and Mississippi, *he was satisfied* there has never been a single case originated there." "It is brought to us in ships in fomites." (*vide* page 765.) "It is *not* endemic in any of the Southern States." "Dr. Austin proposes that 1878 shall be the last year of yellow fever in New Orleans, if we shall declare *non-intercourse* between all the ports where yellow fever is endemic, and New Orleans, from the first day of May, until the first of November." (*Vide*, page 763.)

The conclusions reached by the Commission appointed by the head of the Marine Hospital Department, to examine into and report on the recent epidemic as it prevailed in the Mississippi Valley, are not less emphatic in their utterance in regard to the importation of the disease, and its communicability or contagious character. When it is remembered that the first two gentlemen on the Commission have had many years' experience in the management of yellow fever, it will be seen that the evidence is strengthened in regard to importability. The last gentleman, though less acquainted with the disease practically, is, nevertheless, an intelligent and close observer of facts, and he joins fully with his colleagues in the following report, after some weeks residence in the yellow fever cities. At page 758 occurs the following, viz.:

1. "We have not in a solitary instance found a case of yellow fever which we could justifiably consider of *de novo* origin, or indigenous to its locality. 2. In respect to most of the various towns which we visited, and which were points

of epidemic prevalence, the *testimony showing its importation was direct and convincing in its character.* 3. The transmission of yellow fever between points separated by any considerable distance, appeared to be wholly due to human intercourse. In some instances, the poison was carried in the clothing, or about the persons of people going from the infected districts. In other instances, it was conveyed in such fomites as cotton-bagging, or goods of some description, or bedding and blankets, etc. * * * * 6. Quarantine established with such a degree of surveillance and rigor that absolute non-intercourse is the result, has *effectually*, and without exception, protected those quarantines from attacks of yellow fever." "Each one of us has exercised the utmost care possible to be observed, that whatever facts we might gather and lay before you *should be facts in reality.*" Thus much for the labors of Drs. Bemiss, Cochran and Howard.

Dr. Howard states on page 760, "*Mulattoes* suffered more from the fever than *full-blooded negroes.*" This is an important fact, and though briefly stated, conveys a most valuable item of information to the ethnologist, as well as physician, and is in full accord with my own and the observation of all practitioners of much experience in the treatment of yellow fever.

The "importation theory" of the disease received the endorsement of many able and distinguished gentlemen of the Association, such as Dr. S. S. Herrick, of New Orleans, Dr. Sternberg, of the U. S. Army, Dr. Mitchell, of Memphis, Dr. Guihon, U. S. Navy, Dr. Trescott, of Charleston, and Dr. Wm. Selden, of Norfolk.

From the experience and testimony adduced in this article, it will readily be seen that a greater degree of unanimity exists among leading and educated physicians, in regard to the nature and prophylaxis of yellow fever than was ever known before. And it is earnestly hoped the revelation of science may *compel* commerce to yield to the demands of humanity, in affording effective quarantine against yellow fever.

139 *N. Arlington Avenue.*

ART. II.—**Electricity in its Relations to Medicine and Surgery—Electro-Surgery.** Lecture V. By A. D. ROCKWELL, A. M., M. D., Member of the American Neurological Association; Electro-Therapeutist to New York State Women's Hospital, etc., New York.

Electro-surgery includes both electrolysis and galvano-cautery. Wide as is the difference between these two methods, they are yet often confounded, and, therefore, these distinctive features will be carefully noted.

1st. ELECTROLYSIS.—Few surgical procedures have excited more sanguine expectations, and few, perhaps, have more signally failed (in certain directions, at least) to fulfill the brilliancy of its promise, than has electrolysis. It has, indeed, been wounded in the home of its friends, for, unlike other departments of electro-therapeutics, it has not been ignorantly tampered with by the laity, but has been in the hands of the profession alone. It was to be expected that, in the first attempts in this direction, there would be much blundering, many ill-directed efforts and incorrect conclusions. It followed, therefore, that the subject, instead of becoming clearer in its relation to surgical diseases, became even more grossly misunderstood.

By some it was believed that it might be made efficacious in invariably dispersing, not only benign, but malignant tumors; and this high but futile expectation has been excited and fostered by unreliable reports of cures. These extravagant statements in regard to the cure of malignant growths have been made even more improbable, from an evident insincerity in endeavoring to throw an air of mystery around the performance of an operation, calling only for the same knowledge and care demanded by every important surgical process. In the electrolytic treatment, also, of ovarian tumors, while there has been much intelligent and conscientious effort, there has been, on the other hand, not a little insincerity and perversion of the truth. In this presentation, I desire to fairly survey the subject, and to point out what I conceive to be its powers and limitations.

Let me first, however, define and describe electrolysis. It is derived from ηλεκτρον, and λυσις, to disengage, and signifies

that process by which a compound substance is decomposed by electricity. Although decomposition takes place at both poles, its products and manifestations widely vary, according to the composition of the electrolyte or substance acted upon, and the material of the electrode. The simplest electrolyte is water, and under electrolytic action evolves, at the positive pole, oxygen, and at the negative hydrogen. Subjecting a solution of iodide of potassium to the galvanic current, the iodide, with the oxygen, appears at the anode, and the alkali, with the hydrogen, at the cathode. In a solution of common salt, chlorine is evolved at the anode, and oxide of sodium at the cathode. When it is remembered that in the electrolysis of every compound substance, the elements involved are definite in quality and quantity, as well as electro-chemical equivalents of each other, it can be readily understood, that electro-surgery offers as great, if not greater, possibilities of exact and uniform results as electro-medicine.

In order to appreciate to what extent uniform results can be expected in electrolytic operations, let us examine the phenomena that follow the concentrated action of the galvanic current on organic compounds. By inserting needles—one connected with either pole—into a tumor, it is observed that its fluid constituents become decomposed. Oxygen and acids appear at the positive, and hydrogen and alkalies (soda, potassa, etc.) at the negative pole. Following these changes, we have absorption, more or less marked, according to the character of the tumor with which we have to deal. This absorption seems to be the result, both of the disintegrating process, the mechanical irritation of the needles, and the effects exerted through the nervous system over nutrition, and often goes on slowly for many weeks subsequent to treatment. In the case of any small tumor—such as a wen, mole, wart or nævus—disintegration and atrophy take place immediately; and during the operation, the growth will be seen to change in color, shrivel and contract, and in a few days will entirely disappear.

The action of electricity on the blood is almost entirely of a chemical character, and it is by carefully noting the uniform results that follow it action here that it becomes possible to

predict such positive results in the treatment of erectile tumors. By immediately electrolyzing the blood as it flows from a wounded animal, or better still, by inserting the needles into an artery or vein, it will be found that a clot—small, firm, and closely adherent—has formed at the positive needle, while at the negative, the clot is softer and lighter colored, with an intimate admixture of foam or froth from the bubbles of hydrogen.

Erectile Tumors.—It is the certainty with which the blood becomes coagulated under the above conditions, that enables us to cure so effectually by this method those bloody tumors upon which, through dread of hæmorrhage, the surgeon hesitates to use the knife. The advantages of electrolysis in the treatment of this deformity are patent. In addition to the absence of any danger from hæmorrhage, the operation, if properly performed, will result in little, if any scar; and as these deformities appear mostly on the face and exposed parts of the body, this fact is of no little consequence.

It must not, however, be taken for granted, from the seeming simplicity of the operation, that unmixed good will follow without the exercise of much care and tact. We must do just enough without doing too much. If the current is not sufficiently strong, or the operation not prolonged so as to effectually coagulate the blood throughout the sac, the flow may become re-established and necessitate a second, and even a third, operation. Then again, if the operation is too prolonged and the current too strong, an ulcerative process may be excited—especially in poorly-nourished children—which may cause subsequent trouble. Indeed, in all such cases, I should, in the light of experience, hesitate to operate until the general health had been materially improved by nourishing food and tonic treatment.

My first successful treatment of an erectile tumor by electrolysis, was in the service of Prof. Frank Hamilton at Bellevue Hospital; and in the many that have undergone treatment at my hands since, I can recall but two that were not entirely successful. In the case of a child, but a few years old, the tumor was located on the head. After the operation, the circulation became re-established, and because of the excep-

tional and unpleasant symptoms that followed the application so near the retina and nerve centres, I declined to repeat it.

The second failure occurred in the person of a babe, a year old, who was in an anæmic and generally low condition. The tumor was over the upper dorsal vertebræ. Under electrolysis, coagulation readily occurred; but during the following night, the child was allowed to lie upon its back, with the hard enlargement of coagulated blood entirely unprotected. Extensive ulceration followed, which was probably a long time in healing. Of the ultimate history of the case, I am not informed.

As a rule, one electrolytic operation is, in these cases, sufficient; but occasionally where the clot seems solid and firm, and to occupy the entire sac, evidence of a re-establishment of the circulation becomes manifest, and necessitates a repetition of the process. Since the experience, however, afforded by the following case, it has occurred to me that in several instances, where a first operation seemed insufficient, and a second was performed, the first alone might have proved effective.

Case XVI.—A babe, eight months old, with an erectile tumor about one inch in diameter, and situated on the right cheek, was brought to me by Dr. Jerome C. Smith, of New York. In the presence of Drs. Smith and T. L. Perry, I operated according to the following details: Three three-cornered needles, insulated to within one-quarter of an inch of the points, were, at equal distances from each other, thrust into the three thirds of the enlargement. The needles were then connected with the positive pole, while the negative, consisting of a broad sponge electrode, was firmly pressed on the arm in the region of the deltoid muscle. Beginning with five cells, the number was, without interruption, of course, quickly raised to ten, and the current allowed to pass for ten minutes. Increasing then the number of cells to thirteen, five minutes more were consumed in the operation, when the needles were withdrawn, with the escape of but a few drops of blood.

During the passage of the current, the tumor, through the expansion of the gradually-forming clot, perceptibly enlarged, and at the close of the seance was apparently quite solid. A few days subsequently, the tumor presented a much softer appearance; the circulation seemed, in one part, to be

re-established, and the indications were that a second effort would be necessary. The parents, however, expressed dissatisfaction with the method, and absolutely refused to have it repeated. Fortunately for the child, the subsequent result was entirely satisfactory. The contents of the sac hardened again, absorption slowly followed, and the cure was effected by the one operation.

For a long time, I was in doubt as to the best method of procedure in these cases. Whether needles connected with both poles should be introduced, or whether, as related above, only the anode should be used for the purpose of coagulation. Having tested both methods pretty thoroughly, I am satisfied that my best results have been obtained with the needles connected with the positive pole, and the negative applied externally. Although we have in this way a greatly increased degree of resistance, this can be compensated for by augmenting the number of cells, while the advantage to be derived is that the clot becomes firmer and more consistent throughout. The hydrogen developed at the negative pole unnecessarily puffs up the surface, interferes with the firmness of the coagulation, and at the same time there is a greater tendency to discoloration and destruction of the skin at the points of entrance, even though the needles be thoroughly insulated.

Whether needles connected with one or with both poles are used, the greatest care should be taken to avoid any contact of the points after their introduction. In the latter case (where both poles are introduced), complete approximation of the needles would prevent any electrolytic effect whatever upon the surrounding blood; in the former (where needles connected with one pole only are used), contact would not, of course, interrupt electrolytic action, but its efficiency would undoubtedly be interfered with. When we consider the small size of the majority of these tumors, and the number of needles that are to be thrust in, the necessity of caution can be readily appreciated.

Cystic Tumors.—After erectile, small cystic tumors are, perhaps, most successfully treated by electrolysis.

Case XVII.—In the case of a lad, aged 18 years, who had a cyst as large as an English walnut just above the nose, be-

tween the eyebrows, the fluid had been evacuated seven times, but had on each occasion returned. I saw the case with the late Prof. A. B. Crosby, and introduced a partially insulated needle, sharply curved at its point. Connecting this with the negative pole (which, for the treatment of cysts, is to be preferred to the positive), I slowly swept its convex surface along the secreting surface of the sac, at the same time pricking it gently with the point of the needle wherever possible. On withdrawing the needle, after a seance of ten minutes, the enlargement flattened and soon permanently disappeared.

In certain of these cases, instead of the above result, the cyst, owing to its fluid contents being susceptible of coagulation, has been observed to harden until it becomes quite firm. In one such case that fell under my own observation, the ultimate cure was effected as in the case of erectile tumors, through the process of absorption.

Goitres.—Under the influence of electrolysis, goitres act somewhat capriciously, but enough has been accomplished to prove it to be a valuable method of treatment. It is not too much to say that the goitres almost invariably decrease more or less in size, and not infrequently disappear altogether. As in cysts, the negative pole is to be used, and the needles should be thoroughly insulated and thrust in to a considerable depth. Before doing this, however, it is as well to try external applications, for, under this treatment also, we generally get a reduction in size, and occasionally absolute dispersion. I have seen several cures wrought by this simple method. One case, sent to me by Dr. J. Marion Sims, in which the growth was of considerable size and standing, has been already reported. A second one is as follows:

Case XVIII.—Miss C., aged 21, was referred to me in May, 1876, by Dr. M. T. Pultz, of Duchess county, N. Y. The enlargement first made its appearance several years previously, and had gradually enlarged until it was a very appreciable deformity. Under very mild external applications of galvanism, continued for one month, the tumor disappeared, and has never returned.

In those cases where external applications are followed by a certain reduction in size—be it great or little—and then ceases to be effective, the introduction of needles seldom fails to still further advance the process of resolution.

Case XIX.—Mrs. H., aged 42, came from Newark, N. J., March, 1877, for an opinion, both as to the probability of benefit from an electrolytic operation upon a large goitre, and for her general condition. The tumor had been coming for many years, and at intervals had been treated by various methods—among others, by injections into the substance of the growth, which resulted in some diminution in size, but at the same time set up an ulcerative process which was a long time in healing. Her general health was very poor. She was greatly emaciated, suffered almost constantly from nausea, and was unable to retain sufficient food for proper nourishment. The pulse was from 85 to 90, and through mental or physical disturbance would rise 10 to 20 beats. It seemed probable that there was disease, or, at least, disturbance of the sympathetic, but as there was no protrusion of the eyes, it could not be classed under the head of exophthalmic goitre. The goitre was the largest that I had ever treated, approximating in size an ordinary drinking bowl.

The patient was first submitted to external galvanization (daily) of the growth and of the sympathetic. In two weeks, there was reduction, by actual measurement, of 2½ inches. At the end of a month, no further reduction was observable, but every other symptom had been very decidedly ameliorated. The patient had increased immensely in strength and considerably in weight. The pulse ranged from 70 to 75, and was not at all susceptible to sudden fluctuations. The nausea had disappeared, and the appetite and digestion materially improved.

The needles were now resorted to. Introducing three—connected with the negative pole—at equal distances at the base of the tumor, and applying an electrode, covered with chamois skin, directly over the central surface of the goitre, the circuit was closed, and the current from forty Siemen and Halske's cells was allowed to pass for eight minutes. At the end of a week, after a single repetition of this process, the original measurement decreased five inches. During the next two weeks, the electrolysis was twice repeated—the last seance being attempted with the ordinary zinc-carbon element, of which twenty were used. The tumor continued to grow smaller until the middle of May, when the enlargement was barely perceptible.

In these cases, the pain resulting from the introduction of the needles, and the chemical action of the current, is but slight; but in deference to the wishes of the last patient, she

was given at each seance a few whiffs of chloroform, stopping short of unconsciousness. Although aware of every step in the process, she experienced no pain, and at the last seance bore the operation without an anæsthetic, and subsequently remarked that, had she fully appreciated how slight was the pain occasioned, she would willingly have submitted in the same way to the previous operations.

When we come to consider the larger and more serious forms of morbid growths in their relation to electro-surgery, it must be confessed that the outlook is not greatly encouraging. In the treatment of fibroids and malignant tumors, my experience has been sufficiently extended to enable me to speak with some degree of positiveness in regard to the probable degree of benefit to be derived from electrolysis. In the electrolytic treatment of ovarian tumors, I have, indeed, had but a slight personal experience; but statistics would seem to warrant the conclusion that it is not a method of procedure that is likely to supplant ovariotomy.

Fibroids.—Fibroid tumors are dense and comparatively dry, and do not rapidly shrink and atrophy under electrolysis. Yet, as in the case of goitres, it must be acknowledged that applications to the body of the tumor, may be followed, not only by shrinkage, but by a very great alleviation of the distressing symptoms that accompany this disease, especially when seated in the uterus. The tendency to disintegration and absorption is, of course, much increased, and the danger from peritonitis is but slight; but in regard to the alleviation of pain, less is often accomplished by the process than by external treatment. In two cases suffering from intra-mural fibroids—one directed to me by Dr. T. G. Thomas, and the other by Dr. James R. Wood—the effects of treatment without resorting to the needle have been of a very positive character. In both instances, the patients were almost completely relieved of all pain, and regained, in a marked degree, their failing strength, and in one case, which is still under observation, there has been a very appreciable decrease in the size of the tumor.

Cancer.—In regard to the electrolytic treatment of malignant tumors, in which I have had no little experience, it can

be safely said that by the ordinary methods we can expect but little from it. On the theory of the local origin of cancer, which has been so ably advocated by some, and especially by De Morgan,* there is one method which I believe to be rational, and worthy of investigation. I refer to that process by which, after the extirpation of the growth by the ordinary method (the knife), all the underlying tissue is, by the chemical action of the current, completely and thoroughly destroyed.

My method is simply this: Immediately after the removal of the growth, I place a small harrow connected with the negative, and several platinum needles connected with the positive pole, on the open wound. This appliance called a "harrow" consists of some twenty points projecting from a metal plate, an inch and a-half long by an inch in width. These points penetrate somewhat into the exposed tissue; hydrogen develops in abundance, the tissues change in color and consistency, and rapid and complete destruction follows to a considerable depth. It is necessary to observe some caution in the regulation of the strength of the current and the position of the poles; for if the strength is increased above a certain point, or the position of the poles is such as to affect too directly the pneumogastric, the heart's action becomes alarmingly decreased, both in frequency and force.

I conceive this method to be superior to the ordinary electrolytic process—1st, From the fact that, although two distinct operations are performed, less time is consumed in the operation, and, it is possible, more effectually and to a greater depth to destroy the underlying tissue. 2d, Because the application of the current seems to be stimulating in its effects. When applied so as to affect too directly the heart, it is true that its action becomes weakened; but the moment the tension of the current is lessened, or the electrodes removed to another part, the pulse becomes fuller and stronger. 3d, The healing process is rapid and healthy in all its progress.

Ovarian Tumors.—The electrolytic treatment of ovarian tumors has, of late, excited much attention, and I can do no

**The Origin of Cancer*, considered with reference to the treatment of the disease, by Campbell De Morgan, F. R. S. J. & A. Churchill, Publishers, London, 1872.

better than to give briefly the conclusions arrived at by Dr. Paul F. Mundé, in a very creditable *resumé** of what has been attempted and accomplished in this department of electro-surgery.

He finds—1st, "That a number of ovarian tumors, reported on reliable authority, have been completely cured or permanently improved by electrolysis; out of fifty-one cases, twenty-eight or about fifty-five per cent.

2d, "In a number of these cases, electrolysis was followed by dangerous (thirteen, or 25.4 per cent.) and even fatal results (nine out of these thirteen, or 17.6 per cent. of the whole fifty-one).

3d, "Further, six cases out of fifty-one received neither benefit nor injury from the treatment, and four were only temporarily improved; total ten, or 19.6 per cent. We thus have a total of twenty-three cases, or forty-five per cent., in which the electrolytic treatment failed to accomplish the object for which it was administered. * * * *

6th, "Notwithstanding these undoubted cures, the percentage of successes of oöphoro-electrolysis (55 per cent.) compares unfavorably with that of ovariotomy (70 to 80 per cent.; Spencer Wells 78 per cent., in 1876 as high as 91 per cent.). And so also do the deaths by electrolysis (17.6 per cent.) nearly equal those following ovariotomy in recent years (20 to 30 per cent. to 22 per cent.), and far exceeding those occurring in the last series of fifty-five cases of Spencer Wells (five, or 9 per cent)."

Among the various other surgical diseases for which electrolysis has been recommended and used, I mention only the following:

Aneurisms.—With this disease I have had but little experience, and the published reports are mostly vague and unsatisfactory. The statistics available are of but little value, and the general average opinion, so far as I have been able to ascertain, is, that while galvano-puncture, skilfully performed, may now and then prove of some service, and has, in rare instances, been followed by a radical cure, it, as a rule, fails to give decided relief.

Varicose Veins have been treated successfully by electro-puncture—in some cases, the positive pole alone being intro-

* "The Value of Electrolysis in the Treatment of Ovarian Tumors," by Paul F. Mundé, M. D., New York, *Gynæcological Transactions*, 1878.

duced, and in others, needles connected with both poles being used.

In the treatment of *urethral stricture*, there are rational grounds for the use of electrolysis, and considerable has been accomplished in this direction; but that it is equally efficient with other and older methods may be doubted, and there can be no question that, in inexperienced hands especially, it may work decided injury.

The cure of *old ulcers* can unquestionably be much hastened by electricity in either form, but the electrolytic effects of the galvanic current are much to be preferred. I have seen marked changes for the better follow a single application, but this is rare. The so-called body batteries, consisting of discs of zinc and silver connected by a wire, are frequently efficient.

Abscesses.—The faradic current has, as I have often demonstrated, a remarkable effect in hastening the development of abscesses. So far as this relates to acute abscesses, it is, perhaps, of minor importance, since the ordinary method of poulticing is sufficient; and yet, even here, when the abscess is seated in some inaccessible part, as in cases of tonsilitis, electrical applications prove of great service. It is in strumous, or so-called cold abscesses, however, that this method is chiefly to be commended, and for it, I know of no substitute of equal efficiency. Its value is very positively demonstrated by the following case:*

Case XX.—Mr. R. C., aged about 30, a patient of Dr. S. T. Hubbard, was sent to me in November, 1876. I found a tumor about the size of an orange, situated on the right side of the neck, partially under the body of the sterno-cleido mastoideus muscle. In 1869, he had received a severe strain while rowing in a college regatta, and soon after, this unsightly enlargement made its appearance.

He had been under the care of Dr. Sieveking, of London, and afterwards of Dr. Piersons, of Orange, N. J., who had used the galvanic current (external applications). Supposing (with others whom he had consulted) that it was either a solid enlargement or an ordinary cyst, I proposed electrolysis; but in view of the fact that the patient thought it had decreased a little in size under galvanization as used by Dr. Piersons,

*Published in the *New York Medical Record*, Sept. 21, 1878.

and desired a continuance of the trial, the introduction of the needles was postponed. I alternated galvanic with faradic applications, and in about two weeks, instead of observing a decrease in size, or, as I had expected, no change whatever, the growth appeared perceptibly larger. It was evident to my mind that pus was forming, and on the following day the late Professor A. B. Crosby, who saw the patient with me, introduced a small trocar, which, on withdrawal, showed a slight but sufficient trace of pus. I continued the applications several weeks longer, the enlargement gradually increasing and growing more sensitive, until it was pronounced quite ready for an operation. On etherizing the patient, Prof. Crosby made a free incision, perhaps four inches in length, down to the cyst wall, or, as it is technically called, the pyogenic membrane. This wall is said to increase in density with age, varying from an eighth of a line to an eighth of an inch in thickness. In this case, the membrane was fully an eighth of an inch thick, exceedingly vascular, and of such a consistence, that the knife could with difficulty penetrate it. The discharge of pus was very great, probably half a tumblerful or more. The usual after-surgical treatment was employed, and after the healing of the wound, no trace of an enlargement was visible, and to this date the patient has had no further trouble.

The rationale of the effect of the treatment above given, is, it seems to me, sufficiently clear. While electricity, in passing through living tissue, exerts influences that widely vary, all of which may enter more or less as factors in increasing the activity of the suppurative process, it is probable that the mechanical effects of the faradic current is mainly efficacious. It is a current of alternation, of to and fro motion, of constant closing and breaking. When it passes through the body, even when it produces no appreciable muscular contractions, it acts very much in the same way as gentle pounding, or tapping, or rubbing on the tissues; and this gives passive exercise to all the deeper-lying as well as the superficial tissues. We may believe that the molecules of the tissues are agitated by the passage of the current, as the particles of a bar of iron are moved by the influence of magnetization, or as bodies are expanded by heat.

Now, while it is by virtue, in part, of these phenomena, that we obtain tonic and restorative effects in ordinarily vi-

talized tissue, we can readily understand how, when acting on parts where the destructive process has begun, they may act as excitants, and very materially accelerate the breaking down of tissue, and the consequent formation of pus.

ART. III.—**Origin and Nature of the Late Epidemic of Yellow Fever—Report of the Yellow Fever Commission Partially Reviewed.** By J. J. BURROUGHS, M. D., Houston, Texas.

At the late session in Richmond, Va., of the American Public Health Association, Dr. Elisha Harris (the President) introduced Surgeon-General Woodworth, who remarked: "The Yellow Fever Commission was organized on the 1st of October, and the work of investigation was commenced while yet the great tragedy of the *exotic* enemy was being enacted. This Association has convened to determine, as far as may be, the cause of the commencement and spread of the epidemic. The evidence which the gentlemen of the Yellow Fever Commission have gathered is to be sifted, and important *facts* singled out, tested and established, as the foundation upon which the theory and practice of preventive measures may securely rest. The Commission will bring *facts* only," &c.

Every physician in the South, and especially those located in cities and towns in which yellow fever has at any time been epidemic, looked forward with a great deal of interest and expectation for the report of the Yellow Fever Commission; and when I read the above extracts from their report, I was both surprised and gratified—surprised that Dr. Woodworth, in the beginning of his address, should use the word "*exotic*," without any qualification whatever; and gratified that the Doctor felt authorized to say, "That the gentlemen of the Commission had gathered important *facts*, and *facts only*, upon which to establish a foundation upon which the theory and practice of preventive measures might securely rest." But, after having read the entire report, it occurred to me that the Commission had reached and expressed some

very important conclusions from very meagre and unsatisfactory evidence. Dr. Beniss, in his report, says: "The Board of Health of New Orleans placed in their hands the *facts* that a case of yellow fever had been brought to New Orleans in the month of May; that on the 23d of May, the Emily B. Souder landed with Clark, her purser, sick at the time of her arrival. He was carried to Claibourne street, corner of Bienville, and died May 25th. The death was returned by the attending physician as malarial fever. For testimony establishing the *fact* that this was a case of yellow fever, see Dr. Cochran's notes."

Dr. Cochran's notes are not published, and of course we do not know just what they contain. But Clark came in on the Souder, sick, May 23d; died May 25th; his physician said he died of malarial fever. Dr. Cochran comes to New Orleans October 4th—four months and ten days after—interviews Clark's neighbors, takes notes, and concludes that Clark died of yellow fever.

Mrs. Elizabeth Marshal, at whose house Clark died, testified before the Commission January 3d, 1879, "If Clark had yellow fever, I did not know it; the first case of yellow fever that occurred in my neighborhood was in August."

Mr. E. Hernandez, agent of the Souder, testified same day, "As Clark had had yellow fever in Vera Cruz, I am confident he did not die of that disease." So much for the *facts* in that case.

The Report goes on to say: "Another of the crew of the Souder (Elliot) took sick May 24th, at corner of Girard and Front streets, was taken to Hotel Dieu, and died May 30th." This man (Elliot) is not even accused of having had yellow fever, by notes or otherwise; but Dr. Loeber, who treated him, and Dr. Axon, who saw him in consultation, both testified, January 3d, 1879, before the Commission, "that his case was most undoubtedly a case of congested malarial fever." It is hardly necessary to say that these two gentlemen are as good authority on the diagnosis of yellow fever as there is in the South.

The Surgeon General's weekly mortuary report shows that the first case of yellow fever that occurred in New Orleans

was on July 12th—forty-nine days after the arrival of the Souder.

Dr. Bemiss' report now goes on to make a most remarkable statement. It reads: "The Commission deemed it important, as a first step in their work, to ascertain whether such connection existed between those imported cases and those occurring subsequently in New Orleans, as to authorize them to declare that they afforded the foci of infection from which the disease afterwards spread throughout the city. We were compelled to leave New Orleans before this point in our investigation had been satisfactorily accomplished; enough was developed, however, to render it *probable* [*not a fact*] that a connection, as yet *untraceable* [that is, it may or may not be traceable at some future time], does exist between the cases of Clark and Elliot and the first cases among the citizens of New Orleans. We obtained a sufficient amount of testimony to *justify* a belief [not to arrive at a fact] that one or more cases of yellow fever had occurred in the city, *probably* [not sure] in the month of June" —the Surgeon-General's report says, July 12th—"under circumstances which rendered it altogether *possible* [not even probable] that the yellow fever had been brought to the city by *conveyances as yet unknown*," etc. I would ask, in all candor, what such testimony as the above would be worth in our courts of justice? Would it be likely to add strength or weakness to a case? Would conviction be likely to occur upon such evidence? But the Commission considered it of vital importance to ascertain the connection between the cases of Clark and Elliot, and the cases which occurred "*probably*" in June. Certainly it was of the utmost importance, if a clear diagnosis could have been made out, and Clark and Elliot could have been convicted of having died of yellow fever, by evidence that was entirely reliable, clear and to the point. But Dr. Bemiss himself says that "the Commission was compelled to leave New Orleans before this point in their investigation had been satisfactorily settled."

I would suggest, as to the crew of the Souder, that to have inquired how many of them were unacclimated? Whether or not any more of them were sick at the time of their land-

ing or within 10 or 15 days after or before her landing? and if any were sick, of what disease? would have been interesting questions for replies to the readers of the report. It is possible that the Commission have in their possession good and satisfactory answers to all of the above, and very much more valuable information on this subject, which they have not deemed it necessary to publish, at present.

But it does seem a little strange that they should have published the above and no more, and then proceeded to come to such conclusions as follow, and reasonably expect medical men to accept them. "The Commission unanimously agree in stating the *facts* in regard to their investigation, up to the present time:

"1st. We have not, in a solitary instance, found a case of yellow fever which we could justifiably consider as of *de novo* origin, or indigenous to its locality." Apply the above proposition to New Orleans, and that finishes the work of the Commission upon that point. Of course, if it was imported into New Orleans, it was imported to all other points infected. The minds of the Commission seem to be fully made up and firmly fixed upon that point; but those of us who have had *only* the *facts* given us, from their report to reason upon, are not to be expected to reach exactly the same conclusions very readily. In this latter part of the nineteenth century, medical men do not regard the science of medicine as an exact one, that is to be learned by rote and retained merely by an act of the memory. They are continually reminded in their every-day practice, that they rarely see two cases of the same disease exactly alike. This forces them into the habit of thinking, and when once the habit is fully formed, they soon begin to examine critically the language of the masters of the profession, and it it is not perfectly satisfactory, they immediately resort to a process of reasoning and investigation to remove the doubt. Two or more minds reasoning from the same data, are liable to reach different conclusions; it is natural that they should, for no two minds are exactly alike. Hence, we are always hearing it said, "Doctors will disagree." The minds of medical men require only the data, the evidence, the facts,

and prefer to reach conclusions, each one, by his own individual process of reasoning.

2d. "In respect to most of the various towns which we visited, and which were points of epidemic prevalence, the testimony showing importation was direct and convincing in its character." It is sincerely hoped that the testimony was of a very different character from that adduced at New Orleans.

3d. "The transmission of yellow fever between points separated by any considerable distance, appeared to be wholly due to human intercourse." "In some instances the poison was carried in the *clothing* or *about the persons* of *people* going from infected districts; in other instances it was conveyed in such fomites as cotton bagging, or goods of some description, or bedding and blankets." The tenor of the whole report seems to be strongly inclined to the belief in the contagiousness of yellow fever. They say "its transmission was wholly due to human intercourse; that the poison was carried in the clothing or about the persons of people, in baggage," &c, Then why was not every person who came in contact with those conveying it infected? Why was not the atmosphere contaminated with the poison every step of the way that intervened between points separated by considerable distances, as well as those points themselves? If the poison is conveyed about the persons, in clothing, baggage, &c., I do not see in what respect it can differ from the contagiousness of variola, rubeola and scarlatina; or why it gave so very much trouble in tracing its origin and spread in New Orleans. If its transmission is wholly due to human intercourse, why was it not epidemic in every city, town and village in every one of the Southern States, from the Potomac river to the Pacific ocean? For it is well known that there were thousands of persons who left the infected districts—some in one direction, and some in another—and went into every one of the Southern and many of the Northern States; were attacked with yellow fever, were treated, nursed and cared for by unacclimated doctors, nurses and families, none of whom contracted the disease, either from the persons, clothing or baggage. Is it possible that this

could have been the case if the disease had been variola, rubeola or scarlatina?

The presumption is that yellow fever made its appearance first in New Orleans; from thence it took its departure due north 48 miles to Memphis (both places being almost exactly on the thirteenth degree of W. longitude); from there 140 miles north, and 35 miles east to Cairo. Take a map of the United States, and draw a straight line from New Orleans to Cairo, 620 miles, and it will be seen that every place that had epidemic yellow fever in 1878 is within 75 miles of the line, with the exception of Mobile, which is 130 miles, Chattanooga 230 miles, and Decatur, Ala., about 150 miles East. It will be seen by accurate measurement from the central line, that on the west Morgan City is 70 miles, Baton Rouge is 70 miles, and Grand Gulf is only three miles farther west, on the bank of the Mississippi river, and is the landing and port through which all the business of Port Gibson is done, and yet it escaped entirely. Delhi is 70 miles distant, and is the only place west of the Mississippi, except Morgan City and Plaquemine (which is only a short distance from New Orleans), that had yellow fever. On the east of said line is Pascagoula, 70 miles; Mississippi City, 50 miles; Canton, 15 miles; Grenada, 10 miles; Jackson, 20 miles. It will be seen that the infected district is almost entirely embraced between the 12th and 14th degrees of west longitude, and 30th and 36th degrees of north latitude. It is a fact well known and easily susceptible of proof, that no matter how many persons, how much clothing, baggage, bedding or blankets infected with the poison of yellow fever, went out of the infected district—no matter in what direction or to what place—no case of yellow fever occurred from them. To go west of the Mississippi river or east of the Mobile and Ohio railroad, was perfect immunity from yellow fever. Could it have been so with diseases known to be contagious?

6th. "Quarantines established with such a degree of surveilance and rigor that absolute non-intercourse is the result, have effectually and without exception protected those quarantined from attacks of yellow fever." Such a quarantine

as above described can only be spoken and written. I doubt if such a one ever existed from the beginning of the world up to the present time. All history teaches that no General or Commandant of a post, with all the power and machinery of war, has been able to establish perfect non-intercourse. Gen. Butler, who was more demoralized by the words yellow fever than any others in the English language, gave special attention to the quarantine business during the time of his occupation of New Orleans. Did he have a non-intercourse quarantine? Did he keep yellow fever out of New Orleans? Although he washed and swept the streets every day as clean as a parlor floor, yet the records show that there was yellow fever in New Orleans every year that it was occupied by Gen. Butler. The absolute non-intercourse quarantines are always *out* of the yellow fever district. Almost every place that had yellow fever in 1878 had quarantines. Vicksburg had a very strict one, and it is said that Jackson, Miss., had the best one that was ever seen on this continent; but they were both infected, nevertheless—not on account of their quarantines, but because they both happened to be located in the yellow fever zone.

Dr. Cochran, of Mobile, read a paper on the fever at Grenada, Miss. "The fever first appeared early in July, in the person of a Mrs. Fields; she went down to the depot. The train was from New Orleans. *It is thought* she occupied a seat in the car by her daughter while the New Orleans passengers were taking breakfast." The Doctor says "*it is thought* she took a seat in the car; perhaps several others took seats in the car." He does not say whether or not the daughter was attacked, or the persons who prepared the breakfast, or those who waited on the breakfast table, or even whether or not any of the passengers had yellow fever.

Dr. Howard, of Baltimore, read the result of his investigations at Baton Rouge: "On August 5th, the Democratic Convention assembled in the town. From 400 to 500 attended. Several of them were from New Orleans, and *it is believed* that from them the yellow fever originated. The first cases originated at a hotel. The University of Louisiana is located at Baton Rouge; a strict quarantine was estab-

lished, and it escaped for a long time. The first case was traceable to negligence in quarantine. As soon as yellow fever was declared at New Orleans, a *nominal* quarantine was declared, but from the evidence it appears to have been of no effectiveness; and every principle of quarantine was violated." The report does not state whether either of the indefinite "*several*," from whom "*it is believed*" the fever originated, stopped at the hotel. Although yellow fever had been in New Orleans since July 12th, and only a nominal quarantine, every principle of which had been constantly violated, amounting to unrestricted intercourse every day and every night between the two places, yet "*it is believed*" that it originated from the delegates to the convention! Now, whilst I am inclined to the belief that if there is any class of men that would be most likely to carry with them and propagate a contagion, it is certainly delegates to a political convention, still, the facts in this case are not very clear. Baton Rouge had no quarantine; the University had a very strict one; they both had yellow fever nevertheless. Then, what is the difference between no quarantine and a very strict one? The very strict ones can always trace their first case to negligence in quarantine, but they always have the fever just the same.

Dr. Choppin read a paper on yellow fever in New Orleans, in which he said, "it was this year brought here by the Emily Souder." "The experience of this year with regard to strict quarantines goes to sustain the theory of importation of yellow fever. Witness Galveston, which has not developed a single case; witness Shreveport and Monroe, La., and Natchez, Miss., with their shot-gun quarantines turning away pestilence. Witness again Mobile, which has certainly escaped an epidemic." The Emily Souder case I have already mentioned, and I have already proved that Shreveport, Monroe and Natchez were entirely out of the yellow fever belt of 1878, where all the good quarantines always are. Galveston is 4 degrees (280 miles) west of Morgan City, the most western point that had the fever, and is one degree south of New Orleans. And as to the "shot-gun quarantines," I would refer to a communication published in the Galveston *News*, of the 24th September, 1878, signed "Mem-

ber Board of Health." After going on to mention names of quite a number of persons, and the dates on which they came into Houston, fresh from infected districts, he uses the following language: "On the 28th of August, Lizzie Duvall passed through Houston, nine days from Vicksburg; got into Galveston after swearing the usual oath on the train to the quarantine officers," etc. In answer to the above article, "the Health Officer of Houston published an article in the Houston *Telegram*, calling the names and giving the dates of a number of persons who came into Galveston through other channels than that of Houston." So much for our "shotgun quarantines." But to return to Dr. Choppin's report: "Witness Mobile, which certainly escaped an epidemic." If Mobile did escape an epidemic, it certainly was not from the effectiveness of her quarantine. The first case she had was reported by Surgeon-General Woodworth as an imported case; she had 245 cases and 67 deaths with her effective quarantine notwithstanding. Whilst it is true that not a single case of yellow fever developed in Texas in 1878, it is equally true that there is a scope of country lying between the Mississippi river and the Texas State line that is 100 to 150 miles in width and 300 or 400 miles in length, that was not quarantined for a single day, nor had a single case of yellow fever. Dr. Choppin's report says: "We in Louisiana, operating under a quarantine not absolute in its restrictions, after an earnest effort in executing it, conducted with all the honesty and energy at our command, assisted by incorruptible quarantine officials, have *entirely failed* in preventing the importation of the pestilence. No conditional quarantine can ever be made effective on account of, 1st, the laxity with which our laws are unfortunately executed, and secondly, because of the cupidity of commercial interests at stake, which will always move Heaven and earth to evade successfully all quarantine laws and restrictions." The above quotation is the handsomest thing in the whole report of the Commission; it is concise and to the point, and contains only one error; and I am sorry to say that is a most egregious one. It contains one word too much. With the word *conditional* before quarantine stricken out, the idea is complete.

The next clause in the Doctor's report, with a very slight alteration, can be made more effective and just to the point. It will then express simply the facts in the case. He says: "The great object to be aimed at is to prevent the germs or fomites of this dreadful pestilence from having access to our people. The only certain and sure preventive of yellow fever, in my humble opinion is, *absolute non-intercourse* with parts where yellow fever is indigenous, from the first of April to the first of November of each year." Now the change that I would suggest would be to make it read, The only certain and sure preventive of yellow fever is to absolutely and successfully quarantine *the wind* from the first of April to the first of November of each year.

Dr. Choppin estimates the actual cost of the last epidemic at thirty millions dollars to the material resources of New Orleans; add to that the cost of quarantine for the last thirty years, and which always *fails* to keep yellow fever out of New Orleans, and you will have quite a round sum.

Dr. Austin, of New Orleans, read a valuable article, in which he takes strong grounds in favor of the exotic theory and quarantine, but the Doctor only offers his *ipse dixit* in the shape of proof. The mortuary records show that in the last thirty-seven years New Orleans has had yellow fever thirty-six years, and each year when there was a city quarantine, which, if not strict, has cost just as much as if it had been; and judging the future by the past, and judging quarantines by what Dr. Choppin says of them, it is altogether likely she will have it thirty-six out the next thirty-seven years.

The propositions adopted by the Yellow Fever Commission declared in favor of the exotic theory, quarantine, sanitary conditions, and importation or contagiousness (both about the same) of yellow fever; but the resolutions are about the only part of the report that inclines in that direction; most of the report tends to prove the contrary.

Dr. Bemiss says: "In respect to the sanitary condition of the towns visited, we have to report the same character of neglect and violation of the laws of health common to all or nearly all inland towns in the United States." If that is

a *fact*, why did not nearly all of the inland towns, at least in the Southern States, have yellow fever?

Dr. Cochran said: "Grenada stands on an elevated plateau, and every rain washes the streets and gutters clean. The first case, Mrs. Field's house, was in a good sanitary condition. In the section of the town most exposed to malarial influence, it was least fatal."

Dr. Howard said of Baton Rouge: "The sanitary surroundings are generally good, except some low grounds, which are sometimes subject to overflow. It is worthy of observation that the portions of the town where the worst sanitary conditions were observed, were the last infected, and suffered the least."

Col. Hardee, of the United States Engineering Service, in his report of New Orleans, said: "This recent epidemic of yellow fever was more virulent, and prevalent to a greater extent, in parts of the city that were entirely paved and well drained, than in those parts where the city was not paved and the drainage was imperfect."

Maj. Walthall, of Alabama, who has probably had more experience as a yellow fever nurse than any man in the country, "did not believe the sanitary condition of a city had any effect in checking the fever. He had seen it most virulent in the cleanest and purest sections, while the dirty and filthy portions were comparatively exempt."

The above extracts from the report of the Commission, make a pretty strong array of evidence against the theory that sanitary conditions have anything to do with the spread or virulence of yellow fever. To this I will add the evidence of a distinguished Mexican physician, who says:

"Vera Cruz *la cindad de las murertas*," the city of the dead, as the Mexicans called it, on account of the frequency of its yellow fever epidemics, is built on a barren and exceedingly dry coast, remote from all swamps and surrounded by scorched sand hills. While the swarthy inhabitants of the Peninsula of Yucatan, with its impenetrable jungles and sluggish rivers, enjoy the reputation of being the healthiest and hardiest portion of the Mexican population, Laguayra, Carracas and Rio Janeiro, in spite of their mountainous vicinity, are subject to frequent visits of yellow

fever, but in the Valley of the Amazon it is rarely if ever seen."

It is a fact so patent that all are ready to admit it: that sanitary conditions exert a controlling influence upon malarial and other diseases, but it is far from being settled to what extent, if any, such conditions influence yellow fever.

Dr. White, of the Marine Hospital, quoted from Professor Tyndall, showing that the atmosphere is filled with molecules too fine to be seen with any aids to the sight we possess. That those particles have vital properties may be properly inferred from the power of re-production that they exhibit. The smallest particle of contagion introduced into the system will re-produce itself, etc. The germ theory of yellow fever is pretty generally accepted by the profession; but the fact that as yet no microscopist has been able to subject this peculiar germ to sight, to study its character and its habits, argues that we possess very little positive knowledge of its causation and origin. But what little actual knowledge we do possess of its habits, inclines me to the belief, that the germ exists in the atmosphere, and is wafted from one place to another by the winds with the same ease and facility that a summer cloud would be—rising and falling as the winds are known to do, passing high above some districts and leaving them unscathed, and lowering upon, and infecting others, just as did the epizootic in horses a few years ago, which traveled from New York to Texas in almost two weeks, infecting very severely almost every horse in some places. In other places horses suffered very little, and in some places they escaped entirely, although places, both north and south of them, were infected. The history of the yellow fever epidemic of 1878 shows that its boundary lines, for the most part, were very sharply drawn—Vicksburg and Port Gibson, both exactly on the fourteenth meridian of longitude, suffering severely, whilst Grand Gulf, only three miles west, and Natchez, ten miles west, and every other town that was ten or more miles west, escaped entirely. Morgan City, seventy miles, and Delhi, seventy miles west, were the only two towns west of the Mississippi river that were infected; and yet Galveston, which is four hundred and eighty miles west of Morgan City, and sev-

enty miles south of New Orleans, is cited to show the effectiveness of shot-gun quarantines. The east line is also pretty well marked, no places being infected more than a few miles east of the twelfth meridian, except Mobile, Chattanooga, and Decatur. The Surgeon-General's reports show that the epidemic began with its first case in New Orleans, July 12th, and at Grenada, Miss., two hundred and fifty miles north, July 25th (thirteen days after), whilst at Baton Rouge, only eighty miles off, and with daily communications, the first case occurred August 14th (or thirty-two days after), Morgan City, seventy miles west, and with unrestricted daily intercourse, August 23d (forty-one days after), Mississippi City and South Pass, with daily intercourse, September 21st (two months and nine days after the first case at New Orleans). The transportation theory seems to have worked well northward; but east or west it worked so slow as almost to amount to a failure.

According to the report of the Commission, quarantine has acted admirably every where except in the infected district, and *it is believed* that it would have worked well there if it had been properly carried out, and it can be proved by somebody that in each instance of failure that somebody else did not do their duty; but the Commission ought to be satisfied with that, as it is a part of the natural history of quarantines.

More than three hundred years ago the idea of quarantine originated in the fertile brain of a wily political diplomatist, from which it was evolved and carefully wrapt up in a cloak of superstition, with the view of making it subserve a certain religio-political purpose. Upon application, it was found to answer its original purpose so well that it was thought, by modifying and changing it to suit its present purpose, that it might be perpetuated for a time at least; but the originator had not the most remote idea that it would last more than a few years—that as soon as an opportunity occurred to test its merits its failure would be so pronounced that it would soon be handed down to oblivion. But, unfortunately, people soon began to do then just what they are doing now: that is, when one city began to be scourged with

a plague, they would go in another direction, two or three hundred miles, and quarantine another city; and if the quarantined city escaped, quarantine was pronounced good, but if that city, too, was infected, then it was always easily susceptible of proof by somebody that the quarantine was not quite strict enough, fully believing that it could be made more effective. So it has been handed down from generation to generation, always failing, but it is always believed that it could have been made better, and will be next time.

Having cost millions of dollars and been the cause of the loss of millions of valuable lives, yet quarantine against yellow fever has its advocates. It seems to be a wise dispensation of Providence, that its impossible, cruel and inhuman edicts could never be carried out. Take Memphis, for instance: at the time yellow fever began in Memphis, her population was estimated at 56,000. Of course, as soon as it was ascertained that she had yellow fever, a strict quarantine was declared against her—just as she had done against New Orleans a few weeks before. But what was the result? Forty thousand of her people (although believing strongly in quarantine when it was declared against others), precipitately picked up bag and baggage and fled, leaving only sixteen thousand of her people to have the disease. Suppose strict shot-gun, non-intercourse quarantine had been successfully enforced against her, and had compelled her forty thousand frightened and fleeing citizens to return and remain at home, what would have been the consequence? Of course, several thousand of them would have lost their lives. The report of the Howard Association shows that they paid out nearly five hundred thousand dollars at Memphis, and the Surgeon-General's report shows that over three thousand lives were lost. If transportation had been furnished to the sixteen thousand that remained (who had not had the fever, and who were probably not able to get away on account of their indigent condition), to any point west of the Mississippi river, or east of the Mobile & Ohio Railroad, it would not have cost ten per cent. of the money expended, or ten per cent. of the lives that were lost. The same rule would apply to every city, town and village that had yellow fever, from New Orleans,

with her cost of thirty millions, to Cairo. As long as we have no more positive knowledge of the causation, origin, spread and treatment of yellow fever than we possess at present, the most rational plan of escape from its ravages, the cheapest, as regards lives and money, would be the immediate depopulation of every place, as soon as it is known to be infected with this mysterious enemy of the Sunny South.

Clinical Reports.

Aneurism of the Innominate Artery Compressing Trachea—Croupous Pneumonia (?) Laryngotomy Followed by Amelioration of Symptoms—Death Sixteen Hours after Operation—Autopsy. By VERNON G. CULPEPPER, M. D., House Surgeon Charity Hospital, Blackwell's Island, N. Y.

John Seaman, æt. 49, single, native of United States, occupation driver. The patient was admitted to my ward in Charity Hospital, October 3, 1878. He gave the following history: Father died forty years ago of delirium tremens. Mother and brother living, and perfectly healthy. Patient is a man of large stature and well nourished; with an expression of anxiety and extreme suffering depicted on his face. He states that one month ago he was taken with a slight cough, accompanied by yellowish expectoration and a feeling of general indisposition; nevertheless, he pursued his daily avocation until the second of October, the day prior to his admission. He never was ill but once in his life, viz.: at twenty-one years of age, when he had an attack of enteritis. Denies all venereal diseases, and a close examination of body affords no evidence to render his statement questionable.

The patient exhibited considerable anxiety concerning himself. Three days previously, he had a chill, followed by fever and accompanied by vague pains diffused over his chest. Eyes dull, pupils normal, conjunctivæ injected, tongue clean and moist, bowels regular, anorexia present. He complains of being very tired over pectoral region, this being much exaggerated with the slightest exertion. He is perfectly rational, and articulates clearly. His posture is that of a person laboring under great dyspnœa; his body is inclined forward, elbows resting on knees, and his face supported by his

hands. He responds to questions indifferently, his mind being concentrated on his breathing. The integument of his face and extremities is sub-livid, and covered with a cold, clammy perspiration.

Examination of chest revealed movements of chest restricted; marked increase in abdominal respiration; pectoral muscles stand out prominently; the upper intercostal spaces are drawn in with every inspiration. Respirations are very short and fast, averaging fifty per minute; vocal fremitus scarcely perceptible above; epigastric pulsation. Percussion elicits a resonance of wooden character over the lower portion of both lungs. Auscultation, bronchial breathing below; large œdematous, with a few sibilent and sonorous râles above; voice sounds heard very distinctly, they being bronchophonic over the lower portion of right chest. I examined his larynx, and was assured that his trouble was not located there, as there existed only slight congestion and thickening of the aryteno-epiglottidean folds, with some thickening of the cords. Examination of urine revealed nothing abnormal save superabundance of phosphates.

October 7.—Breathing became much more labored, and patient expectorated a large amount of water; fluid râles could be heard some distance from body; cheeks, nose, lips and integument of extremities cyanosed, and patient craving for air. Temperature, 103¼; pulse, 120; and respirations forty per minute. After a short consultation, it was concluded that the patient's only chance of life rested upon the introduction of a tube in his trachea, in the hope of reaching below an obstruction of undetermined nature in the neck.

October 7, 3 P. M.—I performed laryngotomy. After all hæmorrhage had been suppressed, I introduced a tube of large calibre. After its introduction, the patient was unable to speak, but an expression of satisfaction was evident; his face and extremities lost their lividity and became warm and moist; and when the outer end of tube was occluded, he stated that he felt comfortable—in fact, had not felt better for a month. I carried out the necessary after-treatment, and nursed him through the night. He did well until 3 A. M., October 8th, when more acute pulmonary œdema set in—water flowing rapidly from the tube, and the patient foaming at the mouth. I resorted to cups, diaphoretics, diuretics, and subsequently to venesection. The blood flowed very slowly, and was of dark color, coagulating rapidly; after which, his condition improved. At 5½ A. M., he had an attack similar to the preceding, which was the immediate cause of his death sixteen hours after the operation.

Autopsy—By Dr. MAXWELL. *Thorax.*—On removing the sternum, the thin wall of an aneurism is cut into underneath the manubrium sterni to the right of the median line. The larynx, trachea, œsophagus, thoracic aorta and heart were removed "*en masse.*" Examination showed a sacculated aneurism of the arteria innominata projecting anteriorly, causing erosion of the right upper and posterior border of the manubrium sterni, about one inch in its longest diameter, and about one-eighth inch in depth. A spot similar in size and depth was found on the under surface of the sternal end of the clavicle, close to the sternal articulation, and a small spot on the upper surface of the right rib. The trachea pressed from before backward, and toward the left so as to cause marked flattening and stenosis, which extends from one inch above the bifurcation of the tracnea, upward for two inches. The tracheal rings are not eroded. The sac is about three inches in all its diameters except the vertical, which is three and a half inches. It occupies the whole of the innominate. The aortic orifice of the innominate measures three-quarters of an inch. The sac contains thick layers of laminated fibrin (one to one and a-half inches) on its anterior and upper portions especially; the only portion which probably would have given any pulsation was posterior.

Larynx and Trachea.—Larynx filled with thick tenacious mucus. It shows the operation of laryngotomy—the cricothyroid and the body of the cricoid cartilage being divided. The laryngeal cartilages are markedly calcified. The left true vocal cord is thickened, firm to the feel, and appears to have been the seat of a recent inflammatory exudation (probably caused by the operation, as the upper border of the laryngeal wound runs to the left of the median line, and is scarcely more than three-eighths of an inch from the left vocal cord). The wound presents a healthy appearance. The mucous membrane of the trachea simply shows intense congestion,

Heart and Aorta.—Pericardium contained ℥ss of clear straw-colored fluid. Heart increased in its transverse diameter and flattened; apex rounded; increased deposits of fat over the surface of the right heart; the muscular walls are yellowish-brown in color, dotted with yellowish spots and striæ. The thickness of its ventricle is less than one-quarter inch in thickness; and the left, in the median portion is three-quarter inch; at apex, three-eighth inch. The cavities contained only a small amount of dark, semi-fluid blood. The auriculo-ventricular orifices are larger. The valves upon

the left side show only little atheromatous patches scattered here and there.

The *aorta*, at its commencement, is somewhat dilated—mostly so up to the point of origin of the left carotid; and throughout its whole extent it is the seat of a marked chronic endarteritis (atheroma).

Lungs.—Pleural cavities each contain about three ounces of blood-stained passive effusion. Underneath the large cup mark on the lower and anterior portion of the thorax of the left side, the pleura shows three sub-pleural hæmorrhages.

The right lung contains a small patch of fibrous exudation on the under surface of the lower lobe. The whole of the middle, and all of the lower, except a small spot at the upper border, is consolidated by croupous pneumonia, mostly in a stage of gray hepatization. Remaining portions simply show congestion and œdema.

Left lung.—Lower lobe mostly consolidated by hypostatic pneumonia, mainly in red stage, except a few spots, which are in gray stage. Rest of the lung congested and œdematous.

Bronchi.—Mucous membrane reddened and bathed in thin muco-pus. Bronchial glands considerably enlarged, pigmented and indurated.

Abdomen—Liver.—About normal size, local thickening of capsule; parenchyma is firm and pale.

Spleen.—Slightly enlarged; pulp of reddish black color, considerably softened.

Kidneys.—Slightly diminished in size, fatty capsules adherent to fibrous, the latter difficult to remove, bringing away portions of cortical substance. The surface is granular with scattered depressions, and dotted with cysts varying in size from a pea to the head of a pin. Section shows irregular atrophy of the cortical substance, the columns of the tubules deformed and of deep yellowish color. An appreciable increase of connective tissue between the columns of Ferrein. The pyramids are apparently diminished in size, and of deep reddish color.

Stomach and Intestines.—Mucous membrane shows scattered patches of arborescent congestion.

Spontaneous Expulsion of a Fibroid.—Dr. Ygovin relates a case (*Abstract Med. Sciences*, July, 1878) in which a uterine fibroid tumor, weighing one pound and seven ounces, was spontaneously expelled from the womb.

A Case of Poisoning by the Infusion of Stramonium Datura Seed. By J. E. CHANCELLOR, M. D., University of Virginia.

Mary Moon, æt. 2 years and 6 months, a healthy, robust child, the third of a family of four children, was taken about 4½ o'clock P. M. Thursday, November 8th, 1878, with spasmodic twitchings of the muscles of the upper and lower extremities, unsteady gait and inability to stand erect, with restlessless and incoherence of speech, alternately laughing, crying and singing; some nausea and disposition to emesis. I saw the patient an hour after the onset of the above symptoms, which were steadily increasing in intensity, except the nausea. I found the pupils widely dilated; difficult deglutition; tumultuous action of the heart, with painful spasmodic contraction of the flexor tendons, and grasping at imaginary objects. There were also expressions of alarm and dread of falling.

Investigation led to the following history of the case: The child, after making its dinner mainly of sweet and Irish potatoes, was amusing itself with the dried pods of the stramonium datura, of which a number grew in close proximity to the dwelling. In the absence of the mother, the little patient was playing cook, and innocently emptied the seed of several pods into a small tin cup, added water and put the mixture upon the stove, as she said, to make tea. When ready, in her childish hospitality, she offered it to a baby sister, who refused. Our little cook now sipped the poisonous draft she had prepared. Fortunately the mother's presence ended the repast—she little dreaming of the terrible potion her loved ones were handling, and hence so unconscious of the danger and effect as to lose sight of the facts, until the child was closely questioned as to what she had eaten and drank at dinner. Rigid investigation brought to light the *empty pods* and *toy cup*, with the seed adhering, and the nature of the poison to be dealt with.

Treatment.—An active emetic of zinc. sulphate and pulverized ipecac was promptly given with partial effect. So similar were the symptoms to those of belladonna poisoning, or its active principal, atropia (one case of which I had treated), that after the emetic, several doses of compound tincture of opium, with whiskey and castor oil, were given. Finding deglutition painful and difficult, and thinking that the opiate could be more readily administered and controlled by enema, 25 drops of tincture opii (U. S. D.) and half ounce of water was administered by enema. At the expiration of

half an hour, finding little abatement in the symptoms, 15 drops more of the tincture of opium were given as before. The little patient was now taken from the father's arms and placed on a bed, and closely watched. The symptoms began gradually to abate; convulsions became less active, and she became more quiet. After another hour, a third enema of 10 drops of tincture of opium were given, with continued improvement in the patient's condition. Thus, in four hours, ʒiij compound tincture of opium, *per orem*, and about 50 drops of tincture of opium *per anum*, had been given, with half ounce of whiskey and one ounce of castor oil. The difficulty of swallowing, as well as an imperfect instrument for enema, may have caused some of the paregoric, as well as the enema of laudanum, to have been wasted. I left my little patient doing well at 10 o'clock P. M., with instructions, if no action from the bowels at 12 o'clock P. M. and no stupor, to repeat the paregoric and castor oil in doses first given by the mouth. As the power of swallowing had greatly improved, these instructions were faithfully carried out, and at 9 o'clock A. M., next day, I found my patient "clothed and in her right mind," with some little twitching of the muscles, though able to walk a few steps unsteadily. The pupils were almost normal. Thirty-six hours after the first symptom of the poisoning, all effect had passed away, and the patient was apparently none the worse for the poisonous potation.

Original Translations.

From the French. By WM. C. DABNEY, M. D., Charlottesville, Va. (temporarily residing in San Diego, California).

Opening the Joint and the Antiseptic Wadding Dressing in the Case of Foreign Bodies in the Knee-Joint.—An interesting discussion on this subject took place at the meeting of the Société de Chirurgie on the 13th of November last. The Secretary, M. de Saint Germain, read a letter from M. Paquet, giving an account of two cases in which there were foreign bodies in the knee-joint. The first case was that of a boy, 13 years old. The joint trouble had lasted six years. An incision was made directly over the foreign body, which was as large as an almond and very movable; there was no trace of dry arthritis about the joint. The wound was bathed with thymic acid, and then covered with layers of wadding, which were allowed to remain for fifteen days. The incision was then

almost cicatrized; but, unfortunately, a diffuse abscess, which seemed to have no connection with the wound, made its appearance, and caused the death of the patient. In the second case, the foreign bodies (for there were two) were removed in the same way, and the same dressing was applied. The result was excellent, and on the thirty-fifth day, the patient was able to resume his business.

M. Paquet added that he considered thymic acid equal to carbolic as an antiseptic, and that it was free from the disagreeable odor of the former.

M. Tillaux confined his remarks to those cases where there was a foreign body in the *knee*-joint. He said that the cases demanding surgical interference were those in which the foreign body was movable and caused pain, and where the patient himself demanded its removal. He thought the knee-joint should not be opened till the plan of Goyraud had been tried. Although this plan was more difficult, it was more innocent than incision. He had practised both methods successfully; but in the case of incision, he had found it impossible to dislodge the foreign body without opening the joint.

M. Després said that, in the cases just reported, no mention had been made of the condition of the joint (except in Paquet's first case), a point he considered of the utmost importance. It was well known that an operation on a diseased joint was much less dangerous than if the articulation was sound.

M. Lucas Championnière said that in the previous sitting of the Society, when this subject was under discussion, M. Després had spoken as if the puncture of the joint was free from danger. He himself had seen so many unpleasant results from articular puncture that he considered it more dangerous than a free incision.

M. Verneuil asked if published observations had not shown that incision into a joint was a comparatively harmless operation? He considered incision preferable to Goyraud's method, which had often caused fatal accidents. In the latter, the mortality was 12 per cent., and in addition to this, nearly half of the cases were unsuccessful. In twenty-five cases, where the joint was cut into, there were but two deaths, and these he did not think were justly attributable to the operation itself. He then drew a comparison between the "wadding dressing" of Guerin and that of Lister, stating that he decidedly preferred the former.

Indications for the Formation of an Artificial Anus in Cases of Cancer of the Rectum.—M. Léon Labbé read a pa-

per on this subject before the Académie de Mèdicine, on the 26th of November last, of which the following are the conclusions:

1. In the present condition of surgery, thanks to recent advances, operations on the rectum have become much simpler and less dangerous than formerly.

2. In spite of this, however, it is very questionable whether operations in the case of cancer of the rectum do not often do more harm than good.

3. In the great majority of cases, a relapse has occurred in a few months.

4. Under these circumstances, it would seem advisable not to meddle with the affection itself, but to remedy the obstruction of the bowel, and the consequent retention of fæcal matter, by an operation at a distance.

5. When the obstruction is complete, there is no question about the propriety of forming an artificial anus.

6. Even when the fæces may still pass, but cause intolerable pain in doing so, an artificial anus would render life more bearable, and perhaps retard the progress of the disease.

7. Experience, chiefly among English and American surgeons, shows that it is of decided benefit to form an artificial anus at a time relatively distant from the termination of the affection.

8. If the operation be decided upon, the artificial opening may be made either in the iliac or lumbar region.

9. The first (iliac) may give satisfactory results in spite of the injury to the peritoneum; but

10. The second (lumbar) is decidedly preferable, not only because the peritoneum is avoided, but applications for the relief of the infirmity are more easily made in this situation.

The Formation of Fatty Emboli in Cases of Fracture.— In a late number of *Le Progrès Médical*, M. Dejerine published a paper on this subject, in which he reports two cases. "Fatty embolism" has been known for about ten years; but M. Dejerine states that, in France, the subject has received but little attention, and so far as I am informed, the same remark holds good with reference to America. It has been found, says M. Dejerine, that in every case (?) of fracture, a fatty embolus forms, which has its origin in the marrow of the broken bone, and which may be large or small. Occasionally, the embolus lodges in the lungs, but it has been observed in all the tissues of the body. It has, in a certain number of cases, been diagnosed during life, and is the cause of death in a considerable proportion of those who die

suddenly after the fracture of a limb, and whose death heretofore has been attributed to shock. It has been observed, also, in other cases besides fractures, and M. Dejerine states that it may occur in any case where the bones are diseased. Of the 140 cases reported previous to the writing of the paper we have under consideration, all but two were observed in Germany.

M. Dejerine's cases (two in number) were really not under his treatment; but he made the autopsies, and reports the condition of the blood and various organs. In the first case, a youth, 16 years old, had his right leg crushed, and died in less than an hour afterwards. The blood of the right ventricle contained a great quantity of fat in small drops, which was recognizable by its micro-chemical characters, being dissolved by ether, and turning black when osmic acid was added. The vessels of the lungs were literally engorged with fat. Sections of the parenchyma examined under the microscope, showed that the small arteries, veins and capillaries, contained masses of fat, some of which were from 3 to 5 millimetres in length. Examinations made at all points of both lungs gave the same results. In the second case, a man died thirty-six hours after a fracture and depression of the right parietal bone; and on examination, the pulmonary vessels were found to contain fat, but in less amount than in the preceding cases. The other viscera were not examined in either case.

M. Dejerine says, in conclusion, that he is convinced that careful examination will show that death from this cause is by no means a rare occurrence—an opinion which seems scarcely warranted when we reflect that simple fractures are not very dangerous to life.

The Physician.—The following is a translation of an epigram written by Cordus in the sixteenth century:

"The physician like an angel seems,
When he in the sick-room brightly beams;
And like unto a god is he
When he's removed the malady.
But in a different light we view
The doctor when his bill is due:
Our alter'd eyes we at him level,
As though he were the very devil."

Proceedings of Societies.

Baltimore Academy of Medicine.

Pus in Urine—probably due to Abscess of Kidney.—Dr. J. C. Thomas reported a case of a young girl, 9 years of age, who, after several days of malaise, with tendency to dropsical effusion, exhibited tube casts and epithelial scales in large numbers in the urine. Suddenly the urine became full of pus to $\frac{1}{10}$ the bulk of the fluid, as if there had been the internal bursting of an abscess. It was nearly a fortnight before the pus cells disappeared from the urine. The patient was in the neighborhood of scarlet fever cases. She did not exhibit any of the early symptoms of this disease, nor did any desquamation take place. The nephritic and anasarcous condition looked very much like scarlet fever poisoning.

Dr. W. T. Howard asked whether any examination had been made of the nails? as often in obscure cases the desquamation only occurred in that vicinity.

Dr. Thomas replied: This patient had very long nails, which were frequently the topic of conversation, and had any peeling of the skin occurred near them, it would have been noticed.

Jaborandi for Scarlatinal Troubles.—Dr. S. C. Chew referred to the rapid improvement brought about in a similar condition by jaborandi. Digitalis had been administered in this case instead of jaborandi, as it was feared that the last named remedy would depress the heart's action. Dr. Chew did not believe in any depressing effects from jaborandi, but suggested if there be any doubt in the mind of the physician, there could be no objection to the combination with digitalis as a cardiac tonic.

Scarlet Fever during Pregnancy, and of Fœtus in Utero. During a general discussion on scarlet fever and its contagious character, Dr. Thomas mentioned the singular one of a pregnant woman attacked with scarlet fever, and recovering just before she gave birth to her child. A few days after the birth, the infant underwent the regular process of scarlet fever desquamation, as an evidence that it had passed through the phases of the disease in utero.

Remarkable Twin Labor.—D. J. W. McSherry reported an interesting case in obstetrics in which he was sent for to a woman who had thrown off a fœtus nine days before. He found her, as he thought, moribund. The exhalations from

her person infected the air of the entire house. He found the vagina full of decomposed blood. While under his treatment, a second fœtus came away, there being nine days interval between the deliveries. Under careful treatment with the liberal local use of carbolic acid, the woman finally recovered.

Dr. Van Bibber stated, in connection with this case, that a lady told him that she had a living sister who was born five months before her. Similar cases he had seen mentioned in medical literature, and were explained by a double uterus, each carrying independently its product of conception.

He also mentioned a case in his recent practice in which he found the woman delivered ten minutes before he reached her bedside. He had been in the room about the same length of time when the nurse showed him, at the foot of the bed, a mass that had come away instead of a child. He recognized it as the entire ovum complete. He tore open the membranes, and liberated the child, which commenced to cry as soon as exposed to the air. The child had been out of the uterus, enveloped in its bag of waters, fully twenty minutes before it was brought to light and life.

Epileptiform Coma mistaken for Apoplexy.—Dr. F. T. Miles reported a case of epileptiform coma which had been mistaken for apoplexy by a consultation of physicians. A gentleman, aged 63, was suddenly seized, and at once became insensible. When seen by him, two experienced physicians had already examined the patient; they found him with very stertorous breathing, and had diagnosed apoplexy, and pronounced the man dying. He confirmed the diagnosis, and the three were about leaving the house when he was induced to examine the case anew. He thought he noticed some quivering about the eyelid. Soon after one limb was moved, and then another, indicating no paralysis. A further examination induced him to change diagnosis and prognosis, and he had the satisfaction to find the patient restored to consciousness. The deep, slow, stertorous breathing was very apt to deceive those not constantly on the lookout for less prominent symptoms. There was no drawing of the face in this case.

Curious Eye Injury.—Dr. J. J. Chisolm reported a curious case of injury to the eye from a blow of a piece of wood, which flew up from the axe. The corneal tissue was ruptured from within, making a large, ragged wound, involving the outer third of the cornea. Into this the iris had squeezed itself, making an incomplete hernia. The laceration had ex-

pended itself from the inner face of the cornea outwards, leaving the outer face unbroken, but irregularly elevated. The first appearance was that of an ordinary iritic protrusion through a ragged corneal wound, with the exception that the corneal tumor had preserved all of its polish, but lost all of its transparency. A more through examination with lens and probe exhibited no broken outer surface. Now, two weeks after the accident, the cornea has regained its regular contour. The outer fourth of the surface is opaque, but polished; and the straight edge of the pupil, under atropia, shows free adhesion to this portion of the cornea. The case is very rare, as one of rupture of the cornea from within, caused by a blow from without—the violence being sufficient to cause a dissecting up of the coats, and incarceration of a piece of the iris amidst the corneal layers, without the escape of water from the aqueous chamber, or a solution of continuity of the epithelial surface.

Tattooing the Cornea.—Dr. Chisolm also interested the Academy in a case of tattooing of the cornea, which he had performed three days since. The case was one of a white spot of the cornea, which was made conspicuously ugly by contrast upon the very dark back ground of the iris. The tattooing was done in India ink, putting a drop of this thick liquid upon the white spot, and sticking it into the surface with fine needles. The patient was under chloroform. After as many as two hundred needle sticks, it was found that the black pigment would no longer wash off, and the conspicuous defect being now of the color of the iris, was no longer perceptible.

The cosmetic effect of this class of operations upon the eye is very beautiful. One singular part of the sequel of such operations is, the little irritation which follows the very free use of sticking needles upon the cornea. Sometimes it is necessary to make several hundred sticks before a large white spot is altogether covered. A few days dressing with cold water removes all irritation. The painting is as permanent as when this pigment is introduced under the skin.

Multiple Sclerosis of Brain and Spinal Cord.—Dr. B. F. Arnold exhibited a patient suffering from multiple sclerosis of the brain and cord. The man, 19 years of age, had experienced the first symptoms eight years previously. He was now a confirmed invalid, with whom no treatment promised any good results, and a long tedious course to its final and fatal issue was contemplated. When quiet, no evidences of the trouble exists. Under any excitement there are move-

ments of different parts of his body simulating paralysis agitans for which in former times it was constantly mistaken. The excitement of the walk to the Academy had started his muscles in irregular motion, as seen in the hands and feet. In a short period they were quiet. Any attempt to hold anything in the hand started the muscles. Carrying a glass to the mouth made an incessant clashing of the tumbler against the teeth. Holding a pen starts the hand in active, irregular movement. When excited, the eyes would also vibrate in nystagmus. The speech had become a little drawling. This symptom would progress until, instead of having pauses between words, they would be between parts of a word. Permanent contractions of the muscles of the extremities will slowly come on as the pathological condition advances.

Richmond Academy of Medicine.

(Reported by Chas. S. Brittan, M. D., Secretary.)

Tracheotomy for Diphtheria—Temporary Benefit—Death. Dr. J. N. Upshur reported the case of a white child, twenty-two months old, having diphtheria, which he had treated without success by the usual agents. Tracheotomy finally became the only hope. In fact, before the operation, the child was apparently moribund, but was resuscitated by artificial respiration. The neck was short and thick, and the tracheotomy had to be performed by lamp-light. Chloroform was not given, because of the small supply of oxygen being inhaled. Assisted by Dr. Hugh M. Taylor, he made the usual incision, but the tracheotomy tube was inserted by mistake into the soft tissues of the neck, outside of the trachea. After light was reflected from a hand looking-glass into the incision, the error was corrected, and the tube was then properly introduced into the trachea, when the child's condition was very much improved. Soon, however, the tubes became filled with ropy mucus, necessitating the removal of the tubes for cleaning. During this time, the incision was kept open by tracheotomy forceps. For several hours after the reposition of the tubes, the child continued doing well; but then symptoms of asphyxia began to develop. Supposing the tube to be again stopped up, it was removed, but it was found to be clear of obstruction. On examining the trachea itself, it was found to contain much dry mucus, which could not be removed, and the child soon died asphyxiated.

Ammonia in Typhoid Fever.—Three members reported

their results with ammonial preparations, which were so highly extolled by Dr. S. K. Jackson, of Norfolk, in the *Transactions of the Medical Society of Virginia*. None of them had seen any good effect from their use.

Jaborandi in Scarlatinal and Nephritic Dropsies, etc.—Dr. H. H. Levy reported a case of dropsy following scarlatina, which was relieved by enemata of fluid extract of jaborandi. Also, he reported a case of dropsy in a child, the cause of which was uncertain, which was relieved by the same remedy.

Dr. O. Fairfax has relieved two cases of dropsy, dependent on Bright's disease, for several months, by jaborandi; but finally the dropsy returned with albuminuria.

Viburnum to Prevent Abortion, for Dysmenorrhœa, etc.—Dr. L. B. Edwards reported the successful use of the concentrated tincture of viburnum (of B. Keith & Co., New York) in a case of threatened abortion. Dose twenty drops, repeated every half hour. This preparation is of the viburnum opulus (cranberry tree)—not v. prunifolium; but they both seem to act very much alike. The woman was three months "gone." The hæmorrhage and pain ceased, and she is now going about. Another woman, about the third or fourth month of pregnancy, was taken with hæmorrhage and pains, and the os uteri was dilatable. Two teaspoonfuls of the fluid extract of *viburnum prunifolium* were administered, and one teaspoonful was repeated every hour. The mouth of the womb contracted insensibly to the patient, and the hæmorrhage and pains ceased, and viable pregnancy now exists, as manifested by quickening. Dr. Edwards has also used viburnum beneficially in cases of neuralgic dysmenorrhœa or menorrhagia.

Dr. J. G. Skelton has used viburnum prunifolium with success in a case of threatened abortion. It produces a slight anodyne effect upon the uterus. There was a decided contraction and hardening of the uterus in his case, with closure of the os uteri; but without pain to the patient.

Quinia Oxytocic.—Dr. Robert T. Coleman ranks quinia as an oxytocic, but feebler than ergot. When he is obliged to give quinia during pregnancy, his experience has taught him to combine opium or camphor with it. Ergot should not be given until the parts are thoroughly dilatable. Before this, if the uterine contractions are feeble, he uses quinia sulphate in one or two scruple doses, and then gives chloral, which produces dilatation or dilatability of the parts.

Jan. 21, 1879.—**Post Scarlatinal Dropsy and Convulsions—Bleeding—Recovery—Jaborandi.**—Dr. George Ross reported

the case of a child, aged nine years, who, as a result of scarlatina, had dropsy, and had been having convulsions. When he saw the case, the child was in a comatose state, and seemed to be almost bloodless; the pulse was so fast and flickering that he could not count it. He bled the child from the arm to the amount of twelve ounces. The pulse at once fell to 120 per minute, and became regular. He then gave fluid extract of jaborandi, which produced its characteristic effects in two hours. The child was well in three days. He is satisfied that general bleeding is very efficacious in post scarlatinal convulsions.

Dr. Edwards thought *systemic* bleeding in post scarlatinal dropsy and convulsions a dangerous remedy. In Dr. Ross' case, it is not proven that life was saved by the bleeding. Dr. Edwards had recently attended the little son (about eight years old) of a prominent citizen in whom post scarlatinal dropsy, and finally convulsions, had developed. As the result of the convulsion, the child remained in a moribund condition for over an hour—so emphatically without pulse or respiration that the family thought him dead. An eminent practitioner had been called in in the emergency, but so hopeless did the case appear, that he did not remain to test his own prescriptions. Dr. E. resorted to energetic stimulating frictions of the extremities, the free application of mustard plasters, injections far up into the bowels, of whiskey and turpentine, and over a teaspoonful of fluid extract of jaborandi. Respiration and circulation became apparent in a few minutes: salivation and perspiration were profuse in a half hour; and by supper (some four hours after this treatment was begun) the child was conscious. Daily advances towards recovery were manifest, and the child is now well.

Dr. Fairfax read a paper on the *Treatment of Diphtheria by Alcohol and Calomel* [which is promised the *Monthly* for publication].

Feb. 18th.—**Dialyzed Iron, an Antidote for Arsenious Acid Poisoning.**—Dr. O. A. Crenshaw reported the cases of two girls, aged respectively nine and eleven years. In their play of "making bread," they had mistaken a paper containing a quantity of arsenious acid (purchased to kill rats) for flour. They mixed this (unknown quantity—certainly several grains) with flour and made cakes of bread, which they ate. Soon afterwards, symptoms of poisoning were manifested, when the mother, upon inquiry, discovered the mistake which had been made by her children, and hastened a messenger for the Doctor. When he arrived, about 11 A. M., he found the

younger child vomiting what appeared to be lumps of undigested bread, and a yellow liquid; she was also suffering intense burning pains in her stomach. The elder child did not appear to be much affected—she had not eaten as much of the bread. Soon, however, severe epigastric pains set in in her case, and she began to vomit. The Doctor at once gave an emetic of mustard water, which made both children vomit copiously. This he continued until he thought he had as completely as possible emptied the stomach. He also gave Wyeth's dialyzed iron, in teaspoonful doses, every half hour. At 2 P. M., he saw the children again. Vomiting was still going on, and pain in stomach was much less severe—especially in the younger child. He ordered the dialyzed iron to be continued. At 8 P. M., he saw these patients again. The elder child was considerably better, but the younger was still quite sick. By the next day, the elder girl was well enough to go to school, and the other was out of danger. The iron gave almost marvellous relief from the distressing symptoms. It acted as a perfect antidote. This preparation of iron he regarded as of special value in that, while it answers all the usual purposes of a ferruginous tonic, it also is a perfect antidote to arsenic. It is ready for use as an antidote without admixture with anything, and is kept by all druggists. [In view of the special value of dialyzed iron, as pointed out in the above report, which is but confirmatory of other observations, every doctor who uses saddle-bags or medicine cases, should keep himself constantly supplied with Wyeth's dialyzed iron]

Extempore Formula for an Antidote to Arsenic.—Dr. James B. McCaw remarked that dialyzed iron is simply a peroxide of iron, and is exceedingly sensitive to oxygen. Hence, on slight exposure to the atmosphere (as when the bottle remains unstopped), it unites with the oxygen of the air, and the solid oxide of iron is formed. He suggests the following formula as one not generally known for an antidote to arsenic, and claims for it precedence over all others; first, because it forms the surest antidote, and secondly, because the agents are almost always accessible—even to the country doctor who carries saddle-bags:

℞. Muriate tincture of iron.....℥j.
Bicarbonate of soda (or potash).....℥j.
Tepid water.....Teacupfull.

Mix.—The sesqui-oxide of iron is immediately formed in a solution of chloride of sodium (common salt). Give this mixture almost *ad libitum*. It is a perfect antidote to arsenic.

Book Notices, &c.

The Antagonism of Therapeutic Agents, and what it Teaches. By J. MILNER FOTHERGILL, M. D., Edin., Assistant Physician to W. London Hospital, etc. Philadelphia: Henry C. Lea, 1878. 12mo. Pp. 160. (For sale by West, Johnston & Co., Richmond.)

This book we style among the comparatively few invaluable ones to every practitioner. We cannot better express a synopsis of our opinion than by adopting as fact a part of the preface which we shall condense. The writer presents a fair bird's-eye view of the antagonism of *toxic* agents. He details experiments, and then their *practical* bearing—*omitting* experiments which led to nothing *practical*. "The practical bearings of the different experiments have been kept prominently in view throughout." It is, however, to be regretted that the "index" is not sufficiently full, as one has to look under the heading of "poisoning" to find reference to "belladonna in morphia," "bromide of potassium in strychnia," "digitalis in aconite," etc. These words should have been indexed under their respective initial letters. This is the only criticism we have to make upon the book as presented to the profession.

Health, and How to Promote it. By RICHARD MCSHERRY, M. D., Professor of Practice of Medicine, University of Maryland, etc. New York: D. Appleton & Co., 1879. (From Publishers.)

This is a book (12mo., pp. 185, as we ought to have stated in the caption) that is of *general* as well as professional interest. "Physicians and their patients are equally interested [in the subject discussed], for the success of physic will be vastly greater wherever hygiene is understood." The book is practical in its recommendations, and useful to doctors *and their patients* alike. We wish we had the space in which to give an extract or two as illustrative of the general value of the work.

Physiology: Preliminary Course Lectures. By JOHN T. WHITTAKER, M. A., M. D., Professor of Physiology and Clinical Medicine, Medical College of Ohio, etc. Illustrated. Cincinnati: Chancy R. Murry, 1879. 12mo. Pp. 288. Price $1.75. (For sale by Robert Clarke & Co., Cincinnati, O.)

As the title indicates, this is a *preliminary*—not altogethe elementary—course of lectures. It considers the influence

of physiology upon practice; the conservation of force; the origin of life, and the evolution of its forms; and, finally, protoplasm, bone, muscle, nerve and blood. We do not think these lectures essential to the medical student; but to the professor of physiology, and also to the general biological reader, they will prove serviceable. In general terms, Dr. Whittaker is a "Darwinian." Some of the conclusions are, therefore, such as we cannot accept with present lights before us.

Transactions of the Ohio State Medical Society. 33rd Annual Meeting. Held at Columbus May 14–16, 1878. Cloth. Pp. 228. B. B. LEONARD, M. D., President; J. F. BALDWIN, M. D., Columbus, Secretary.

This is a nicely issued book. We cannot do more than barely mention the titles of papers published.

1. Address of Welcome, by Dr. Chauncey P. Landon, of Westerville. It must have taken up twenty minutes—nineteen minutes too long for such an occasion.

2. Annual address of the retiring President, Dr. W. H. Philips, of Kenton, on the Testimony of Medical Experts, contains some first-rate suggestions after a brief review of the needs of the profession of Ohio. Compensation to medical experts is advocated, and the suggestion will go to the Legislature.

3. Maxillary and Naso-Pharyngeal Tumors, by Prof. J. W. Hamilton, of Columbus. Report of some rare surgical cases, with wood-cut illustrations.

4. Throat and Nasal Affections in their Relation to Diseases of the Ear, by Dr. J. H. Buckner, of Cincinnati; an excellent paper for the general practitioner.

5. The Use of Sub-Sulphate of Iron as a Local Remedy, by Dr. C. S. Muscroft, of Cincinnati. Highly recommends the preparation "in nearly all diseases attended with much cutaneous redness, especially ulcers of the lower extremities." This paper deserves consideration.

6. The Curette in Certain Forms of Uterine Disease [attended by metrorrhagia, and, in some cases, menorrhagia], with Cases, by Dr. Thad. A. Reamy, of Cincinnati. Another valuable paper.

7. Report on Chronic Introversion of the Uterus, by R. L. Sweny, M. D., of Marion, O., advocating Prof. James P. White's (of Buffalo) method—adding illustrative cases.

8. Quinine as an Antiseptic, by Dr. G. S. Franklin, of Chillicothe, a warm friend of heroic doses.

9. Mental Action, Normal and Abnormal, by Dr. J. C.

Kennedy, of Batavia. An unsatisfactory paper in more than one particular.

10. Quinine, a Prophylactic in Scarlet Fever, by Dr. Calvin H. Reed, of Toledo. Statistics are suggestive. The agent can do no harm. Let it be further tried.

11. Report on the Progress of Ophthalmology during the year 1877, by Dr. D. B. Smith, of Cleveland. Title well represents the scope of this paper.

12. Report on the Progress of Medicine, by Dr. Starling Loving, of Columbus—a good and interesting paper.

Obituaries and List of Members conclude this very creditable volume.

Transactions of the New Hampshire Medical Society. (88th Anniversary.) Held at Concord, June 18–19, 1878. Pp. 105. A. F. CARR, M. D., Goffstown, President; G. P. CONN, M. D., Concord, Secretary.

The retiring President, Dr. L. M. Knight, of Franklin, in his President's address, spoke in a cursory way upon some miscellaneous topics, especially aiming to help the younger members. His advice should be reiterated until it is universally followed: "Arm yourself with a good note-book, and in your daily practice, put it into perpetual and methodical use." "The medical journals of the country are open and eager for just such experimental and practical information as such note-books would furnish." He warmly advocates solid primary education. His address concludes with some striking remarks upon the importance of hygiene.

Dr. J. P. Bancroft, of Concord, presented a paper on the "Pauper Insane of New Hampshire." He starts off with the proposition that "disorders of the mind are the result of disorder of its physical organ or some of its parts," and as such claim the care and sympathy of the physician and the people. He points out some technical defects in the laws of his State regarding provisions for the insane, and conclusively argues for some changes.

Dr. William Child, of Bath, reports on Surgery. It is well written—even if a little sectional in some of its expressions. Passing over the divisions of the social relations of surgery, and surgery as a science, we find, under the head of surgery as an art, that he opposes the use of chloroform as an anæsthetic. We have so often referred to the remarkable difference of experience, North and South, regarding chloroform that we will not refer to it here. While we might confess, as the result of our observation, that too great stress is laid upon antiseptics as *essentials* in surgical practice, still

we were not prepared to hear any practitioner of extended experience in this day affirm that "Of all the *humbugs* of modern times, antiseptics and disinfectants constitute the greatest."

Dr. E. E. Graves, of Boscawen, details very graphically "Some of the Risks and Responsibilities of the Profession"—especially as concerns medical witnesses, malpractice suits, etc., and then sums up the laws which rule in his State.

Dr. T. J. W. Pray, of Dover, after examining the "Reasons for Modern Alcoholic Stimulation," comes to the just conclusion that the wholesale manner of some doctors of giving alcohol "is a one-idea medication," and not to be commended. It amounts to the *abuse* of a good remedy for many conditions.

Dr. D. S. Davis, of Manchester, gives a very good *resumé* of recent literature on carcinoma. In fact, it would be a useful chapter in a work on surgery. But he says nothing about treatment. We have made no decided advances in this direction.

Dr. L. Duncan Bulkley, of New York city, fraternal delegate from his State Society, read a valuable paper on the "Use of the Solid Rubber Bandage in the Treatment of Eczema and Ulcers of the Leg."

Transactions of the New York Pathological Society. Vol. I. Based on the Proceedings for 1875, and Largely Supplemented from the Records of 1844 to 1872. JOHN C. PETERS, M. D., Editor. New York: Wood & Co., 1876. 8vo. Pp. 272. —— Vol. II Based on the Proceedings for 1875, and Largely Supplemented from the Records of 1844 to 1877. Edited by JOHN C. PETERS, M. D., President of the Medical Society of the County of New York, etc. New York: Wm. Wood & Co. 1877. 8vo. Pp. 291. (For sale by Messrs. West, Johnston & Co., Richmond.)

These two volumes are exceedingly valuable to students of pathology. They contain records of cases—symptoms and autopsies—systematically arranged as to the parts or organs of the body chiefly diseased. There is no unnecessary verbage in the descriptions. The subjects are well indexed, which is of great service to one in search of his subject—11 pages of Volume II being devoted to this matter. The Society was most fortunate in securing the services of Dr. Peters as editor—an untiring worker, a competent observer, and an accurate recorder.

Sixth Annual Report of the State Board of Health of Michigan, ending September 30, 1878. Lansing: 1878. HENRY B. BAKER, Secretary. 8vo. Pp. 355.

This is a most useful publication. It illustrates the amount of good work that can be done by a properly sustained State Board of Health. After routine transactions of special State interest, comes a paper by Prof. R. C. Kedzie, M. D., on "Lead Poisoning from the Use of Tinned, Glazed and Enameled Ware;" then Dr. H. O. Hitchcock's report showing the fallacy of the "Supposed Causal Relation between Cancerous Diseases and the Use of Tomatoes as Food;" Dr. Hitchcock again on the "Relation of Wood Pavements and Wood Sidewalks to Public Health;" a special report by Dr. Orville Marshall, on "Opium Habit in Michigan;" Special Reports on Diphtheria in Michigan—also a "Document issued by the State Board of Health, relative to the Restriction and Prevention of Diphtheria;" Dr. James H. Farnsworth, Jr. (D. D. S.), on "Preservation of the Teeth." These are simply the titles of the several excellent articles of great value to the general reader outside of Michigan. The amount of statistical information cannot be illustrated. The most excellent Secretary, Dr. Baker, deserves great credit for what he has done for his State, and for the cause of sanitation at large.

General Surgical Pathology and Therapeutics. By THEODOR BILLROTH, Professor of Surgery in Vienna. Translated from the Eighth Edition by Charles E. Hackley, A. M., M. D., Physician to the New York Hospital, etc. New York: D. Appleton & Co. 1879. 8vo. Pp. 773. Cloth. Price $5. (From Publishers.)

Every one in the profession is familiar with the name of Billroth and his works. He has been an untiring and accurate observer of progress, and has noted the advances which year by year have been made in surgical pathology. We are, however, aware that a general impression prevails among those who do not own this book that it is not intended for general every day practice—that it is too simply *pathological* in its teachings. This is a mistake, growing, perhaps, out of the title. Every time we have had occasion to consult the former edition, the book has grown upon us, until now we have come to the conclusion that it is one of the *very* useful books in our library for general practice. The present edition is but an improvement of the former. We most earnestly commend it.

PAMPHLETS RECEIVED, for which we have no room for further acknowledgment. Most of them can be secured by enclosing to the respective authors a postage stamp for each of the papers named:

Involuntary Action of the Nervous System. By JOHN J. CALDWELL, M. D., Baltimore, Md. Pp. 19.

(1) *Clinical Contribution to the Study of Post-Paralytic Chorea.* (2) *Contribution to the Study of Localized Cerebral Lesions.* By E. C. SEGUIN, M. D., Clinical Professor of Diseases of the Mind and Nervous System, College Physicians and Surgeons, New York, etc. (From *Transactions American Neurological Association*, Vol. II, 1877.) Pp. 39.

Contribution to the Therapeutics of Migraine. (Same author.) Pp. 8.

Extraction of Cataract within the Lenticular Capsule. By GEORGE REULING, M. D., Surgeon to the Maryland Eye and Ear Infirmary, Baltimore, etc. (From *N. Y. Med. Journal*, January, 1879.) Pp. 18.

Lessons from a Study of the Cæsarean Operation in the City and State of New York, and their Bearing upon the True Position of Gastro-Elytrotomy. By ROBERT P. HARRIS, A. M., M. D., Philadelphia. (From *Amer. Jour. Obstet. and Diseases of Women and Children*, January, 1879.) Pp. 12.

Reports and Resolutions relating to Sanitary Legislation. (Presented to the American Public Health Association, in Richmond, Va., November 19–22, 1879.) Pp. 23.

Report of the Medical Officer of Quarantine, District Elizabeth River, for 1878. HERBERT M. NASH, M. D., Norfolk, Va., Quarantine Officer. Pp. 11.

Typhoid Fever: Its Etiology and Treatment. By A. M. FAUNTLEROY, M. D., Ex-President and Honorary Fellow Medical Society of Virginia, etc., Staunton, Va. (From *Trans. Med. Soc. Va.*, 1878.) Pp. 10.

Treatment of Strumous Disease by what may be called the Solfatara Method. By HORATIO R. STOVER, M. D., Newport, R. I., President of the Gynæcological Society of Boston, etc. (From *Boston Med. and Surg. Jour.*, June 27, 1878.) Pp. 10.

Editorial.

The Fifth Annual Volume of the Medical Monthly is completed with this number. We have much for which to be thankful as regards this enterprize. Our untiring labor has been rewarded by success. The *Monthly* has worked its way

into every State of the Union, and has also a respectable foreign circulation. We know of no medical journal that within twelve consecutive months has had contributors to its pages from so many (twenty-four) different States and Territories. We have met with friends on every hand. By their favors, we are encouraged to advance, step by step, as our growing success may warrant. Our *Sixth* annual volume (to begin with the April Number, 1879) will be enlarged to *eighty-four* pages monthly. In our editorial work, we shall try to keep constantly in view the needs of the *practitioner*.

With this issue, a larger part of subscriptions expire. We ask all our friends to be prompt in renewing; and while they do this, we hope they will induce other friends to subscribe.

The Library Association of the Richmond Academy of Medicine is a decided success. Valuable contributions are being received from doctors in and out of this city, and the Committee will soon begin their purchases of such works as may be needed to supplement the wanting volumes. It will not be long before Richmond will have the best medical library in the South. Authors who have books or pamphlets to distribute complimentally, and all who have duplicate or other books bearing on medicine, which they are willing to give, are invited to send their donations to the Librarian, Dr. E. T. Robinson, Richmond, Va. The President of the Academy, Dr. M. L. James, deserves the commendation of the profession for his earnest work in thus advancing their interests.

Neurological Contributions, by Wm. A. Hammond, M. D., assisted by W. J. Morton, M. D., Assistant to the Chair of Diseases of the Mind and Nervous System, University of New York, etc., are announced by Messrs. G. P. Putnam's Sons, New York. There will be four numbers in 1879—first to be in March. Price $1 a number; at least 96 pages to a number. It will consist of Memoirs by Dr. Hammond on subjects connected with the mind and nervous system; reports of cases of Dr. Hammond's clinic at the University of New York; and notices of publications relating to the nervous system. Illustrations used when necessary.

The Archives of Medicine.—The first number of this bimonthly is received. It is edited with that accomplished skill generally conceded to be possessed by Dr. Seguin, and is handsomely issued, as are all the publications of Messrs. Putnam's Sons.

INDEX TO VOLUME V.

(APRIL, 1878—MARCH, 1879, inclusive.)

EXPLANATIONS.—This Index is divided into two parts: first, **Index of Contributors**, which also gives the titles of articles, etc.; and secondly, the **Index of Subjects.**

The letter T preceding some of the figures refers to the paging of the **Transactions of the Medical Society of Virginia** (Part III of Volume II). This third part of Volume II of the **Transactions** was issued with the January number, 1879. But in binding this Volume V of the **Medical Monthly**, the **Transactions** should be separated from the January number, 1879, of the journal, and be bound after the March number, 1879.

Notices of books, journals, deaths, persons, and proceedings of societies etc., are indexed in the **Index of Subjects** under the respective words **Book Notices, Journalistic, Obituary Record, Personals,** and **Society and Health Board Proceedings.**

INDEX OF CONTRIBUTORS.

A. S. ALFORD, M. D., Shelbyville, Texas. **Case of Chlorosis, with Remarks** 384

B. P. ANDERSON, M D., Colorado Springs, Colorado. **Influence of Colorado Climate upon Health and Disease** ..... T. 448

JOHN W. AYLER, M. D., Passapatanzy, Va. **Case of Inveterate Mammary Neuralgia due to Unsuspected Uterine Version** 115

R. L. BAGLEY, M. D., Louisa C. H., Va. **Nature of Typhoid Fever—Inoculation Suggested** ..... T. 428

E. C. BARRETT, M. D., Jerusalem, Va. **Quinia not Oxytocic** 30

ROBERT BATTEY, M. D., Ex-President Georgia State Medical Association; Honorary Fellow Medical Society of Virginia, etc., Rome, Ga. **Permeability of the Entire Alimentary Canal by Enema, with some of its Surgical Applications, 551;—Occlusion of the Entire Utero-Vaginal Canal following Labor, with Distressing Sequelæ of Unrelieved Menstrual Molimen—Battey's Operation—Cure** ..... T. 432

W. L. BAYLOR, M. D., Petersburg, Va. **Report on Arsenic in Sub-nitrate of Bismuth** ..... T. 413

GEORGE M. BEARD, M. D., Member American Neurological Association, etc., New York, N. Y. **Certain Symptoms of Nervous Exhaustion** 161

J. T. BOUTELLE, M. D., Hampton, Va. **Cases Illustrating the Action of Morphia in Acute Uræmia** 451

WILLIAM H. BRAMBLETT, M. D., Newbern, Va. **Etiology of Typhoid Fever, 517; Some of the Phenomena produced by Large doses of the Sulphates of Quinia and Cinchonidia when given as Antipyretics and Antiperiodics** ..... T. 464

CHARLES S. BRITTAN, M. D., Assistant Recording Secretary Medical Society of Virginia, etc., Richmond, Va. **Reports of Proceedings of the Richmond**

Academy of Medicine;—Salicylic Acid in the Treatment of Typhoid Fever ..T. 427
C. W. P. Brock, M. D., Richmond, Va. **Buffalo Lithia Water to Prevent Albuminuria of Scarlet Fever** 671
J. G. Brooks, M. D., Paducah, Ky. **Gonorrhœal Ophthalmia** 441
L. Duncan Bulkley, A. M., M. D., Physician to Skin Department, Demilt Dispensary; Attending Physician for Skin and Venereal Diseases, New York Hospital, Out Door Department, etc., New York, N. Y. **Diet and Hygiene in Diseases of the Skin** 536
J. J. Burroughs, M. D., Houston, Texas. **Origin and Nature of the late Epidemic of Yellow Fever—Report of the Yellow Fever Commission Partially Reviewed** 944
Harvey L. Byrd, M. D., Formerly Professor in the Savannah Medical College, and Oglethorpe Medical College, Ga.: Late Professor in Washington University, and College of Physicians and Surgeons of Maryland, etc., Baltimore, Md. **Observations of Yellow Fever.** 919
William A. Byrd, M. D., Quincy, Ill. **Surgical Treatment of some of the Diseases of the Female Urethra** 277
James L. Cabell, A. M., M. D., LL. D., Ex-President and Honorary Fellow Medical Society of Virginia; President Virginia State Board of Health; President American Public Health Association; Professor of Physiology and Surgery, etc., University of Virginia. **Salicylic Acid in the Treatment of Enteric Fever** ..... T. 424
John J. Caldwell, M. D., Baltimore, Md. **Bell's Paralysis—its Anatomy and Physiology, 91;—Review of the Neuroses of the Pneumogastric and Sympathetic Nerves, with Some Account of their Anatomy, Physiology and Pathology; also of the Vaso-Motor Centres; Exhibition of Electricity, Atropin, Muscarin and Pilocarpin, etc** 91
John D. Carnahan, A. M., M. D., Ogden City, Utah. **Complications of Scarlet Fever** 185
E. A. Chancellor, M. D., Assistant Resident Physician, Baltimore Infirmary, Baltimore, Md. **A Traumatic Stricture, and Operation by External Perineal Urethrotomy, without a Conductor, 466;—Hospital Reports in the Service of Dr. J. J. Chisolm** 665
J. E. Chancellor, M. D., University of Virginia. **Case of Poisoning by Infusion of Stramonium Datura Seed** 962
John Herbert Claiborne, A. M., M. D., Ex-President and Honorary Fellow Medical Society of Virginia; Author of "Clinical Reports from Private Practice," etc., Petersburg, Va. **Exaggerated Case of Purpura Hæmorrhagica cured by Mercury, 16;—Practical Observations on Electricity, 357;—Annual Address of (retiring) President** ..... T. 333
Robert T. Coleman, M. D., Professor of Obstetrics, Medical College of Virginia, etc., Richmond, Va. **Report on Advances in Obstetrics** ..... T. 370
J. L. Coombs, M. D., Grass Valley, California. **Oxytocic Properties of Quinia** .. 221
Charles R. Cullen, M. D., Hanover Co. (post-office Richmond), Va. **Translations from Spanish and French** 133, 299, 595, 900
J. S. Dorsey Cullen, M. D., Professor of Diseases of Women and Children in Medical College of Virginia; Physician to City Almshouse Hospital, etc., Richmond, Va. **Report on Advances in Diseases of Women** ..... T. 377
Vernon G. Culpepper, M. D., House Surgeon, Charity Hospital, Blackwell's Island, N. Y. **Aneurism of Innominate Artery compressing Trachea—Croupous Pneumonia (?) Laryngotomy followed by Amelioration of Symptoms—Death 16 Hours after Operation—Autopsy** 958
R. C. Cunningham, M. D., Verona, Miss. **Case of Cleft Palate, Lip and Superior Maxilla** 404
Ephraim Cutter, M. D., Boston, Mass. **Rhizopods (Asthmatos Ciliaris) a Cause of Disease** 605
William C. Dabney, M. D., Author of Boylston Prize Essay, 1872, etc., Charlottesville, Va. **Translations from French and German, 34, 123, 223, 296,**

406, 471, 592, 741, 963; **Nature and Treatment of Fever**.....633, 707, 817, 839

CHARLES H. S. DAVIS, M. D., Meriden, Conn. **Is Consumption a Preventable Disease?** 729

JOHN W. DILLARD, M. D., Resident Physician, etc., at Bedford Alum and Iron Springs, Lynchburg, Va. **Piecemeal Removal of Fœtus—Chloroform to Accelerate Labor, 400; Remarks on the Water and Mass from the Bedford Alum and Iron Springs, Va**..... 718

WILLIAM LEWIS DINKINS, M. D., Warrenton, Ga. **Viburnum Prunifolium in Menstrual Disorders, and in Threatened Abortion**..... 294

T. CHALMERS DOW, M. D., Professor of Gynæcology and Diseases of Children, Nashville Medical College, Tenn. **Ovariotomy—Dermoid and Cysto-Sarcomatous Degeneration—Exceptionally Rapid Development of Tumor—Visceral Adhesions—Recovery**..... 396

E. T. EASLEY, M. D., Little Rock, Ark. **Ergot for Uterine Fibroids, 32; Quinia for Surgical Shock**..... 510

M. G. ELLZEY, M. D., Professor of Chemistry, etc., Virginia Agricultural College, Blacksburg, Va. **Life-Work of the Modern Physician as a Member of Modern Society**.....T. 344

JOSEPH A. EVE, M. D., Professor of Obstetrics and Diseases of Women and Children, Medical Department University of Georgia, etc., Augusta, Ga. **Sketch of the Life of Dr. Robert Battey**..... 1

JESSE EWELL, JR., M. D., Hickory Grove, Va. **New Plan of Tying Surgical Knots, 219, 411; Hot-Water Baths for Opium-Poisoning—Priority of Authority**..... 735

ORLANDO FAIRFAX, M. D., Ex-President Richmond Academy of Medicine, etc., Richmond, Va. **A Case of Renal Asthma**..... 287

A. M. FAUNTLEROY, M. D., Ex-President and Honorary Fellow, Medical Society of Virginia; Member Virginia State Board of Health, etc., Staunton, Va. **Case of Hydatids of Kidney Treated by Carbolic Acid, 282; Etiology and Treatment of Typhoid Fever**.....T. 415

D. W. FOSTER, M. D., Ville Platte, La. **Jaborandi for Anasarca, 29; Some Cases of Fæcal Obstruction, and their Treatment**..... 402

MORRIS STROUD FRENCH, M. D., Philadelphia, Pa. **Dialyzed Iron and Arsenical Preparations**..... 899

A. Y. P. GARNETT, M. D., Washington, D. C. **Medical Department of the Confederate Government, and Some Advances made by Confederate Surgeons**... 20

A. SPEIRS GEORGE, M. D., Richmond, Va. **Two New Splints (illustrated): (1) Cylindrical Coaptation Splint for Arm and Leg; (2) Ulnar-Radial Interosseous Splint**..... 724

J. E. GIBBONS, M. D., Baltimore, Md. **Hydrorrhœa Gravidarum**..... 447

J. R. GILDERSLEEVE, M. D., Tazewell C. H., Va. **An Epidemic of Rotheln**..... 105

J. A. GOGGANS, M. D. Bulger's Mills, Ala. **Cauterization of the Neck of the Womb to relieve Vomiting of Pregnancy**..... 469

J. H. HARTMAN, M. D., Baltimore, Md. **Eight Cases of Intra-Laryngeal Growths Removed through the Natural Passages (illustrated)**..... 191

JAMES B HODGKINS, D. D. S., Professor of Dental Mechanism, etc., Baltimore College of Dental Surgery; Associate Editor of "American Journal of Dental Sciences," etc., Washington, D. C. **Some Causes of the Decay of Teeth of Americans, 107; Inquiry about Nitrous Oxide Gas Effects, 117; Restoration of the Inferior Maxilla after Removal**..... 208

JOHN R. HOOPER, M. D., Baltimore, Md. **A Nail, Two Inches Long, Swallowed and Passed Safely**..... 738

WILLIAM D. HOOPER, M. D., Liberty, Va. **Improved Apparatus for Treating Diseases of the Hip-Joint and Knee-Joint (illustrated)**.....T. 467

WALTER IZARD, M. D., Late Resident Physician, Louisville (Ky.) City Hospital, etc., Liberty, Va. **Antiseptic Treatment of Puerperal Fever—Safe Method of Injecting the Uterine Cavity—Report of Cases**..... 366

S. K. JACKSON, M. D., Norfolk, Va. **Ammonial Preparations in the Treatment of Typhoid Fever**.....T. 429

M. L. James, M. D., Registrar of the Summer Faculty, and Lecturer on Practice of Medicine, Medical College of Virginia, etc., Richmond, Va. **Curative Treatment of Consumption** ..... T. 471
M. D. Jefferies, M. D., Culpeper, Va. **Case of Spina Bifida, with Recovery** ... 405
W. H. Johnston, M. D., Selma, Ala. **Treatment of Infantile Diarrhœa** 382
Levin S. Joynes, M. D., Secretary Virginia State Board of Health; Emeritus Professor Physiology, Medical College of Virginia; President Medical Society of Virginia, etc., Richmond, Va. **Yellow Fever, embracing the Liability of Richmond, and the Need of Quarantine, 643; Need of National Quarantine against Yellow Fever** ..... T. 459
A. Z. Koiner, M. D., Richmond, Va. **Case of Transported Yellow Fever in Richmond, 668; Translations from German** 671, 824
Richard H. Lemmon, M. D., Castle Craig, Va. **Some Experiments upon the Ferments with Reference to their Value in Surgery, etc., 558; Corpuscular Elements of the Blood—Their Variations and Enumeration** 871
Meriwether, Lewis, M. A., M. D., Lenoir, Tenn. **A Case of Complete Unilateral Perspiration, with Excess of 3½° F., in Axilla of Perspiring Side** 284
Edward F. Mann, M. D., Sunny Side, Washington Heights, New York. **Pathological and Psychological Action of Opium, and its Effects upon the Human Race—Treatment by Electricity and Caffeine** 256
G. McDonald, M. D., Union, West Va. **Case of Hydrophobia, with Doubtful History as to Cause** 895
W. J. McDowell, M. D., Chief of Clinic to Chair of Eye and Ear Diseases, University of Maryland, etc., Baltimore. **Oyster-Shucker's Corneitis** 883
Hunter McGuire, M. D., Professor of Surgery, Medical College of Virginia, etc., Richmond. **Ovarian Tumor—Both Ovaries Removed—Recovery** ..... T. 522
B. G. McPhail, M. D., A. Assistant Surgeon U. S. Army, Fort Whipple, Arizona Territory. **Random Notes from the Frontier, 289; Report on Climatic Influences and Health Resorts in the West** ..... T. 395
J. Michaux, M. D., Cedar Point Landing, Va. **Singular Discharge from Submaxillary Abscess, 403; Incompatibility of Dialyzed Iron, Strychnia and Fowler's Solution** 670
James L. Minor, M. D., Late House Surgeon, St. Peter's Hospital, Brooklyn, N. Y. **Treatment of Fracture of Patella (illustrated), 380; Case of Dissecting Aneurism of Aorta** 736
John Morris, M. D., Baltimore, Md. **Gonorrhœa in Women** 373
L. H. A. Nickerson, M. D., Quincey, Ill. **Case of Priapism Cured by Dilatation of the Urethra** 29
R. C. M. Page, M. D., Member Pathological Society, etc., New York, N. Y. **Fibro-Myoma of Uterus** 241
C. D. Parke, M. D., Selma, Ala. **Letter about Alabama State Medical Assotion, etc** 119
Wm. W. Parker, M. D., Richmond, Va. **Correction about Opium Eaters** 117
C. G. Polk, M. D., Philadelphia, Pa. **Infantile Innutrition, 99; — Organic Phosphates, 455; — Damiana as Nerve Tonic** 885
John Randolph, M. D., Hay Market, Va. **Case of transported Yellow Fever in Prince William County, Va** 588
George Reuling, M. D., Surgeon-in-Charge of Maryland Eye and Ear Infirmary, etc., Baltimore, Md. **Use of Yellow Oxide of Mercury in Eye Diseases** 640
W. L. Robinson, M. D., Danville, Va. **Use of Oxygen Gas in the Treatment of Diphtheria** ..... T. 454
A. D. Rockwell, M. D., Electro-Therapeutist to New York Woman's Hospital, etc., New York, N. Y. **Remarks Based on a Case of Total Blindness, with Sudden Recovery of Sight, following Brain Lesion, 437; Electricity in its Relations to Medicine and Surgery—Lecture I, 625; Lecture II, 696; Lecture III, 790; Lecture IV, 846; Lecture V** 932
George H. Rohe, M. D., Lecturer on Diseases of the Skin, College of Physicians and Surgeons, etc., Baltimore, Md. **Recent Progress in Venereal Dis-**

eases, 263; Recent Progress in Dermatology 385
LEWIS A. SAYRE, M. D., Professor Orthopedic Surgery and Clinical Surgery, Bellevue Hospital Medical College, etc., New York, N. Y. Clinical Surgical Lecture, 81; Clinical Surgical Lecture, chiefly on Pott's Disease and Lateral Curvature of the Spine ..... T. 439
WILLIAM SELDEN, M. D., Norfolk, Va. Cases of Opium-Poisoning Relieved by Application of Scalding Water 578
JOHN G. SKELTON, M. D., Lecturer on Obstetrics in Medical College of Virginia, etc., Richmond, Va Report on Advances in Diseases of Children ..... T. 351
A. H. STEEN, M. D., Cottage Grove, Minn. Case of Dislocation of Inferior Maxilla 220
M. D. C. M. SUMMERLIN, M. D., Sun Hill, Ga. Household Prescription for Dropsy, 31; Case Showing Aphrodisiac Value of Damiana, 222; Cheap Febrifuge and Diaphoretic 412
JAMES W. TANKARD, M. D., Burgess Store, Va. Case of Triple Birth, with Complications 218
R. H. TATUM, M. D., Dayton, Va. Is Morphia, Hypodermically Administered, an Antidote to the Poison of Reptiles and Insects? Will Rhubarb, Administered with Morphia, Prevent the Nausea so general after the Use of Opiates? 887
HUGH M. TAYLOR, M. D., Assistant Demonstrator of Anatomy, Medical College of Virginia, etc., Richmond, Va. Death from Chloroform Narcosis—Failure of Nelaton's Method and Amyl Nitrite Treatment, 113; Clinical Cases of Dr. Hunter McGuire, 215; Telephone to Diagnose Calculus in Bladder 293
SAMUEL THEOBALD, M. D., Surgeon to the Baltimore Charity Eye and Ear Dispensary; Ophthalmic and Aural Surgeon to St. Vincent's Hospital, etc., Baltimore, Md. Some Cases of Traumatic Lesions of the Eye of Unusual Character 9
JOHN M. THOMPSON, M. D., Silver Street, S. C. Fæcal Obstruction of Bowels Relieved by Morphia, 27; Tying Knots in Surgical Operations—Correction 295
L. McL. TIFFANY, M. D., Professor of Operative Surgery, University of Maryland, etc., Baltimore. Treatment of Nasal Polypi by Thermo-Cautery 212
CHRISTOPHER TOMPKINS, M. D., Lecturer on Anatomy, Medical College of Virginia; Deputy Coroner of City of Richmond, Va. Abscess of the Right Lobe of the Cerebellum—Death—Unusual Weight of Brain 586
LAWRENCE TURNBULL, M. D., Aural Surgeon, Jefferson College Hospital; Author of "Advantages and Accidents of Artificial Anæsthesia," etc., Philadelphia, Pa. Ether versus Chloroform—Bromide of Ethyl 722
J. N. UPSHUR, M. D., Richmond, Va. Salicylate of Soda in Typhoid Fever ..... T. 268
WM. R. WEISIGER, M. D., Manchester, Va. Report on Microscopy and Histology ..... T. 402
J. S. WELLFORD, M. D., Professor of Materia Medica and Therapeutics, Medical College of Virginia, etc., Richmond. Translations from French 128
HENRY P. WENZEL, M. D., Lomira, Wisconsin. Diphtheria Treated by Sodium Sulpho-Carbolate—Report of Seventeen Cases with Three Deaths 201
EDWARD WIGGLESWORTH, M. D., Clinical Instructor in Syphilis, etc., Harvard University, Boston, Mass. The Metric System 463
OSCAR WILEY, M. D., Salem, Roanoke county, Va. Tympanites due to Salicylic Acid ..... T. 427
P. C. WILLIAMS, M. D., Baltimore, Md. Some Remarks upon Puerperal Eclampsia, based upon a Few Cases 889
JOHN W. WILLIAMSON, M. D., Jackson, Tenn. Buffalo Lithia Water for Uræmia, Albuminuria of Pregnancy, etc 898
H. E. WOODBERY, M. D., Washington, D. C. Dysmenorrhœa—its Treatment, 445; Sulpho-Carbolate of Sodium Suggested for the Treatment of Yellow Fever 462
ALFRED A. WOODHULL, M. D., Surgeon U. S. Army, Alcatraz, California Ipecac Treatment of Dysentery 17

INDEX OF SUBJECTS.

Steel Plate Engravings of

Robert Battey, M. D., facing page 1
Julian J. Chisolm, M. D., facing page 783

Abdomen punctured for cirrhosis 592
Abortion, Pilocarpin to produce, 829; — to prevent puerperal convulsions, 893; Viburnum prunifolium to prevent — 234, 971
Abscess, Electrolysis of, 942; — of cerebellum, 586; Singular discharge from submaxillary —, 403; — of tibia, 85; — of kidney 967
Acetic acid for carcinoma, 126; Glacial — — hypodermically for ununited fracture, 598; — — for recurrent tumor of eye 667
Acne rosacea, Chrysophanic acid for, 52; Fat diet for — —, ... 542
Aconite antipyretic 817
Acid, Acetic, see *Acetic acid*; Boracic —, see *Boracic acid*; Carbolic —, see *Carbolic acid*; Chrysophanic —, see *Chrysophanic acid*; Hydrocyanic —, see *Hydocyanic acid*; Lactic —, see *Lactic acid*; Mineral — for fever, 717; Phosphoric —, see *Phosphoric acid*; Salicylic —, see *Salicylic acid*; Sulphuric —, see *Sulphuric acid*; Uric —, see *Uric acid*.
Addison's disease, Pathology of 876
Address of Dr. Claiborne, T., 333; — of Dr. Elzey ..... T., 344
Agoraphobia symptomatic of neurasthenia 174
Albuminuria of pregnancy, and after scarlatina 671, 898, 971
Alcohol and diphtheria antagonistic, T., 356; — for febrile consumption, T. 488, T. 493; Glycerite of — in consumption, T., 495; — for fever, 714; — predisposes to skin diseases, 545; — hypodermically for varicose veins 125
Alcoholism, Phosphorus for 123
Alfelasma buccalis 385
Alimentary canal permeable by enema, 6 551
Alimentation per rectum (see also *Enemata*). 341
Alopecia palpebrarum 666
Alum and Iron Springs, Bedford 718
Amaurosis, see *Eye Sight*.
Amblyopia, Amyl nitrite for 34
Amenorrhœa, Electricity for 860
Ammonia for typhoid fever 970
Ammonia picrate for typhoid fever, T., 430; — — for whooping cough, diphtheria, etc., T., 361; 597 748
Amputation at knee-joint 82
Amyl nitrite antiseptic, 561; — — for amblyopia, 34; Failure of — — for chloroform narcosis 113
Anæmia, pernicious, Blood of 873, 875
Anæsthesia and Anæsthetics (see also *Chloroform*, *Ether*, *Ethyl bromide*, *Nitrous oxide*), Electricity for, 807; Death from —, 113; Local —, 300; —in obstetrics 223
Anasarca (see also *Dropsy*) Jaborandi for 29
Aneurism of aorta, Dissecting, 736; Esmarch's bandage for —, 595; Electrolysis for —, 941; — of innominate artery 958
Antipyretics, 707, 817, 839.
Antiseptic, Thymol, 69; — treatment of knee-joint wounds, 676, 963; — treatment of puerperal fever 366
Anus, artificial, for rectal cancer, 964; Treatment of fissure of —, ... 394
Aorta, Dissecting aneurism of. 736
Apoplexy, Epileptiform coma mistaken for 968
Apothecaries complaints 460
Apomorphia for foreign body in œsophagus ..... T., 361
Araroba powder, see *Chrysophanic acid*.
Arkansas Springs doctors 239
Arsenic in bismuth subnitrate, T., 413; — for lymphatic tumor, 35; — for pemphigus, 394; dialyzed iron for poisoning by —, 159, 972; Antidote for —, ... 973
Arsenite of potash, solution, see *Fowler's solution*.
Artery, Syphilis of brain, 269; Common carotid — ligated, 408; Femoral — wounded, 831; Innominate — aneurism, 958; — ligated to cure inflammation 23
Arthritis, see *Knee-joint inflammation*.
Ascites, see *Dropsy*.
Asthma, Hay, see *Hay fever*; Iodides of ethyl and potassium for —, 37;

Renal —, 287; Treatment of —,... 596
Asthma due to rhizopods 605
Asthmatos ciliaris, see *Rhizopods.*
Astraphobia in neurasthenia..... 176
Ataxy, Progressive, see *Locomotor ataxy.*
Atrophy, Progressive muscular, 570; Electricity for — — —, 869; — of skin 391, 392
Atropia (see also *Belladonna*) in labor, 425; Effect of — on sweat centres 576
Auditory, see *Ear*; also *Hearing.*
Aural, see *Ear.*

Bacteria ..... T., 352
Bahia powder, see *Chrysophanic acid.*
Bandage, collodion, for hernia, 827; Esmarch's — for hernia..... 825
Bath, cold, antipyretic, 843; Hot mustard — for children's pneumonia ..... T., 380
Batteries, electrical 805
Battey, Dr. Robert, Sketch and engraving of..... 1, 78
Battey's operation,.....6, 334, T., 432
Bedford Alum and Iron Springs..... 718
Bell's paralysis 91
Bicarbonate of soda, see *Sodium bicarbonate.*
Birth, Triple 218
Bismuth subnitrate, Arsenic in....T., 413
Black haw, see *Viburnum prunifolium.*
Bladder (see also *Cystotomy*), Calculus in, see *Calculus*; — injected without catheter 59
Blanchard's apparatus for spondylitis. 155
Blepharitis, Yellow oxide of mercury for..... 642
Blepharoplasty..... 303, 337
Blindness after brain lesion with sudden recovery 437
Blisters in febrile consumption....T., 487
Blood, Corpuscular elements of, 871; Morphology of —, 746; Transfusion of —, see *Transfusion of blood.*
Blood-letting antipyretic, 822; — for convulsions 971
Blood-vessels, Gold-platinum staining of..... T., 411
Boils, Treatment of 597
Bone and cartilage related, T., 405; — growing in eye, 345; Syphilitic — lesions, 274; Tubercle of —,..... 306
Bone-felon, Treatment of..... 597
Book Notices, etc.:
Agnew, Principles and Practice of Surgery, being a Treatise on Surgical Diseases and Injuries, Vol. I 775
Barker, Puerperal Diseases..... 75
Barnes, Clinical History of the Medical and Surgical Diseases of Women..... 834
Billroth, General Surgical Pathology and Treatment..... 978
Busey, Congenital Occlusion and Dilatation of the Lymph Channels..... 355
Carnochan, Contributions to Operative Surgery and Surgical Pathology..... 75
Chapman, Antagonism of Alcohol and Diphtheria..... 833
Charcot, Lectures on Localization in Diseases of the Brain..... 833
Charcot, Lectures on Bright's Disease of the Kidneys..... 833
Charteris, Handbook of the Practice of Medicine..... 237
Chasser, Elementary Quantitative Analysis.. 777
Dalrymple, Studies in Pathological Anatomy.. 910
Doherty, Atlas of Skin Diseases..... 427, 969
Ellis, Practical Manual of the Diseases of Children, with a Formulary 910
Erichsen, Science and Art of Surgery..... 72
Finlayson, Clinical Diagnosis..... 911
Flint, Jr., Source of Muscular Power 356
Fothergill, Antagonism of Therapeutic Agents and what it Teaches..... 974
Garnett, Exposition of Facts..... 78
Garrish, Prescription Writing designed for the Use of Medical Students who have not Studied Latin 598
Gerlach, Atlas of the Human Body, Illustrating most of the Ordinary Dissections, and many not Usually Practised by the Student, Accompanied by Explanatory Text..... 909
Gray, Anatomy—Descriptive and Surgical, to which is added Landmarks, Medical and Surgical..... 503
Green, Introduction to Pathology and Morbid Anatomy..... 908
Grover, Annual Medical Directory of the Pacific Coast, 1878..... 910
Hall, Differential Diagnosis: A Manual of the Comparative Semeiology of the more Important Diseases..... 907
Hamilton, Nervous Diseases: their Description and Treatment..... 689
Hammond, Cerebral Hyperæmia..... 855
Hilton, Rest and Pain..... 832
Holden, Landmarks: Medical and Surgical.. 76
Leonard, Physicians' Pocket Day Book..... 779
— —, Vest-Pocket Anatomist..... 834
Lindsay & Blakiston, Physicians' Visiting List for 1879..... 779
Liveing, Notes on Treatment of Skin Diseases 969
Mays, Therapeutic Forces..... 834
Mesberry, Health and How to Promote it..... 974
Mears, Practical Surgery, including Surgical Dressings, Bandaging, Ligations and Amputations..... 776
Mercer, Spinal Curvatures and Treatment of Spinal Diseases by Plaster-of-Paris Jacket, Sayre's Method..... 778
Otis, Stricture of the Male Urethra—its Radical Cure..... 908
Pamphlets Received, etc.....506, 835, 911, 979
Playfair, Treatise on the Science and Practice of Midwifery..... 777
Powell, State Regulation of Vice—Regulation Efforts in America—Geneva Congress..... 501
Reiter, Treatment of Diphtheria, based upon a New Etiology and Pathology..... 682
Sayre, L. A. Spinal Disease and Spinal Curvature—their Treatment by Suspension and the Use of the Plaster-of-Paris Bandage.. 71
Sayre, L. E. Conspectus of Organic Materia Medica and Pharmacal Botany, Comprising the Vegetable and Animal Drugs..... 834
Schweigger, Handbook of Ophthalmology..... 236
Sinclair, Diseases of the Bladder and Urethra in Women..... 776
Smith, Practical Gynæcology—Handbook of Diseases of Women..... 237
Squibb, Note on Hydrobromic Acid 77
Squire, Treatment of Chronic Eczema by Glycerole of the Subacetate of Lead..... 77
Squire, Atlas of the Diseases of the Skin..... 426
Stewart, Jr., Pocket Therapeutics and Dose Book..... 685
Stimson, Manual of Operative Surgery..... 598
Transactions of Medical Societies:
Georgia, 1878..... 504

Louisiana, 1878..... 77
Maryland, 1878..... 501
Michigan Board of Health, 1878..... 978
Mississippi, 1878..... 428
New Hampshire, 1878..... 976
New York Pathological Society..... 977
Ohio, 1878..... 975
Virginia, 1878..... T 331 and 556 inclusive.
Tuke, Insanity in Ancient and Modern Life, with Chapters on its Prevention..... 427
Turnbull, Advantages and Accidents of Artificial Anæsthesia..... 683
Tyson, Cell-Doctrine—its History and Present State—Also a Copious Bibliography of the Subject..... 832
Walsh, Combined Call-Book and Tablet..... 779
——, Physicians' Handy Ledger..... 779
Wells, Fownes' Manual of Chemistry—Theoretical and Practical..... 599
Whittaker, Physiology: Preliminary Course Lectures..... 974

Boracic acid for chancroids..... 264
Bougies for gonorrhœa..... 263
Bowels permeable from anus..... 6, 551
Brain (see also *Cerebellum*) arteries, Syphilis of, 269; Pathology of — concussion, 69; Differential diagnosis of — disease, 58; Action of electricity on —, 697; — injuries, 225; — irritation, 163; Sequelæ of — injuries, 409; Sudden recovery from blindness due to — injury, 437; Unusual weight of —, 586; Multiple sclerosis of —, 969
Breast (see also *Mammary*) cancer, Treatment..... 135
Breech presentation..... 40
Bright's disease. Ear affections due to, 128; Jaborandi for — —...276, 971
Bromide of ethyl anæsthetic..... 722
Bromide of potassium, see *Potassium bromide*.
Bromine for cancer..... 596, 901
Bronzed skin diseases, Pathology of.. 876
Buenos Aires, Statistics..... 301
Buffalo Lithia Water for female diseases, 744; — — — to prevent scarlatinal albuminuria, 671; Uses of — — —..... 898
Burns, Sodium bicarbonate for..... 70
Bursæ, Syphilis of..... 270

Cæsarean section, Craniotomy versus 229; Laparo-elytrotomy instead of — —, 60, T. 370; — — theologically considered..... 492
Caffeine for opium habit..... 262
Calculus causing chorea, 215; Telephone to diagnose —, 293; Lithotomy for —, 141; — with symptoms of strictured urethra..... 746
Calomel hypodermically for iritis, 276; —, milk and lime water compatible..... 346
Campbell, Dr. Henry F., first ligated to arrest gangrene, etc..... 23
Camphor antiseptic, 561; — for mania, hysteria, etc..... 902
Cancer, Acetic acid for 126; Artificial anus for — of rectum, 964; Bromine for —, 596, 901; Treatment of — of breast, 135; Early recognized epithelial —, 830; Eucalyptus for —, 901, 939; — of rectum, 227, 964; — of uterus, 674, 901
Cannabis indica for tetanus..... 54
Carbazotate of ammonia, see *Ammonia picrate*.
Carbolate, Sulpho., see *Sodium Sulpho-carbolate*.
Carbolic acid to abort carbuncles, 746; — — inhaled for consumption, T. 500; — — for renal hydatids, 282; — — as an antiseptic, ... 560, 563
Carbolic intoxication from washing out uterus..... 828
Carbuncles aborted by carbolic acid, 746; Treatment of —..... 597
Carcinoma, see *Cancer*.
Carotid artery, common, successfully tied..... 408
Cartilage related to bone.....T. 405
Caruncle of female urethra..... 277
Cataract, Pilocarpin after..... 135
Catarrh, Rhizopodal, 605, 835; Oil of sandal wood for —..... 831
Catheter not needed to inject bladder. 59
Caustic, Potassium bromide externally..... 596
Cauterize womb for vomiting of pregnancy, 469..... T. 386
Cautery, thermo-, for uterine cancer.. 674
Census, Spanish..... 133
Cerebellum, Abscess of..... 586
Cerebral, see *Brain*.
Cerebro-spinal diseases, Differential diagnosis..... 58
Cervix uteri cauterized for vomiting of pregnancy, 469, T. 386; Stenosis of — —..... T., 378
Chancroid, Boracic acid for, 264; Iodoform for —..... 263
Chicken-pox, see *Varicella*.
Children's diseases. Report on....T., 351
Chisolm, Dr. J. J., Sketch and engraving of..... 78, 783, 837
Chloasma, Chrysophanic acid for..... 51
Chloral hydrate antipyretic, 823; — antiseptic, 561; — hypodermically for cholera, 496; — for convulsions, 594; Pain due to — 69; — for tetanus..... 53, 564
Chloroform (see also *Anæsthesia*) used by Confederate Surgeons, 21; — for convulsions, 593, 894; Death from —, 113; Ether versus —, 722; — to hasten labor, 400; Turpentine lessens danger of — 227
Chlorosis, Case of..... 384
Cholecystotomy for dropsy of gall-bladder..... 347
Cholera, 738; Chloral for —..... 496

Chorea due to calculus, 215; Electricity for — 849
Chrysophanic acid for skin diseases, ... 46, 230, 741
Cinchonidia sulphate, Large doses, T. 464
Cirrhosis of liver, Operation for..... 592
Claiborne's (Dr.) Address as President.....T., 333
Clamp for perineorrhaphy..... 334
Clay earth, see *Kaolin*.
Cleft-lip, etc., 404; Syphilitic — palate 273
Climate for consumptives, 311; — of West, etc.....T. 395, T. 448
Club-foot, see *Talipes*.
Coaptation splint..... 724
Cod liver oil for phthisis.....T., 491
Cold bathing antipyretic..... 843
Colic, Posture for..... 423
College, Medical, of U. S., 903; Medical — of Virginia.....917, 9xx
Collodion bandage for hernia..... 827
Colon, descending, on right side..... 292
Colorado as health resort...T. 396, T. 448
Coma, Scalding water to relieve, 584; Epileptiform — mistaken for apoplexy 968
Concussion of brain 69
Confederacy, Medical Department of 20
Connective tissue, Microscopy of...T. 492
Constipation, Electricity for..... 857
Consumption (see also *Phthisis*, also *Tuberculosis*), Paper on, T., 472; Climate for —, 311, T. 396, T. 448; Opium habit preventive of —, 289; Morphology of blood in —... 827
Convulsions (see also *Eclampsia*) in children, Treatment....593, T. 362, 971
Coracoid, sub-, luxation of humerus reduced 217
Cornea inflamed, see *Corneitis*; Brier transfixing —, 667; Penetrating wound of —, 90; Tattooing the —, 969
Corneal ulcers, 641; — injury..... 968
Corneitis Ostrearii, 883; Traumatic — 13
Corn-stalk pith for uterine tent..... 424
Corpuscular elements of blood..... 871
Cough (see also *Whooping Cough*), Treatment of phthisical.....T. 490
Counter irritation in phthisis, T. 488, ...T. 500
Coxalgia and sacro-iliac disease differentiated, 86; Reference to —, 307; Hooper's apparatus for —, T. 457
Cramp, writers, Electricity for..... 869
Craniotomy versus Cæsarean section, 229
Creasote antiseptic..... 563
Croup, Hypodermic use of iron perchloride for, 472; Larynx of —, 831; Tracheotomy for —, 67; Tracheotomy for diphtheritic —, T. 359; Treatment of —,..... 301
Croupous pneumonia..... 958
Curare for epilepsy..... 301
Curvature of spine, Lateral.....T. 439
Cystic tumors (see also *Ovarian tumors*), Electrolysis of..... 936
Cysticercus sub-retinal..... 825
Cysto-sarcomatous degeneration of ovary..... 395
Cystotomy for chronic cystitis, Perineal..... 5

Damiana as nerve tonic, 885; — as sexual tonic..... 222
Datura stramonium poisoning..... 962
Dentition. Peculiarities of second..... 108
Dermatology (see also *Skin Diseases*), Progress in 385
Dermoid ovarian degeneration..... 395
Diabetes (see also *Glycosuria*), Salicin for..... 597
Dialyzed iron, arsenic, etc., incompatible 159, 670, 899, 972
Diaphoretics (see also *Antipyretic*), cheap..... 412
Diarrhœa, Bedford Alum and Iron Water for chronic, 721; Potash chlorate —, 300; Treatment of infantile —, 382; Zinc oxide and soda for —,..... 300
Diet for phthisis, T. 503; — for skin diseases..... 536
Digitalis antipyretic..... 817
Diphtheria and alcohol antagonistic, T. 355; Ammonia picrate for —, 597; Diagnosis of —, T. 354; Epidemic of —, 341; — and lactic acid, 500; Oxygen gas for —, T. 454; — and hospital gangrene identical, 337; Sodium sulpho-carbolate for —, 201; — complicating scarlatina, 185; Treatment of —, 232, 902, T. 355; Tracheotomy for —,..... 970
Diphtheritic croup, Tracheotomy for T. 359; — Diseased germs..... 338
Dislocation of hip-joint, 236; Old — of humerus reduced, 217; — of knee joint, 84; — inferior maxilla, 220
Dowell's operation for hernia..... 492
Dropsy, Household prescription for, 31; Jaborandi for —, 29, 971; — of knee (see *Hydrarthrosis*), Cholecystotomy for — of gall-bladder..... 347
Drum of ear ruptured..... 228
Dysentery, Ipecac treatment of..... 17
Dysmenorrhœa, Electricity for, 861; Theory of —, T. 393; Treatment of —,..... 445
Dyspepsia, Nervous, 171; Electricity for nervous —, 857; — after typhoid fever 827
Dyspeptic consumption, Treatment of.....T. 501

Ear (see also *Membrana tympani*; also

Otorrhœa), affected by Bright's disease, 128; Extraction of foreign bodies from —, 904; Treatment of discharges from —, ... 136
Eastern (Va.) Lunatic Asylum....510, 913
Eclampsia (see also *Convulsions*), Pilocarpin for, 829; Cases of puerperal —, ... 889
Eczema, Errors of diet in, 539; Chrysophanic acid for —, ... 52
Education, Intervention of physicians in 308
Electrical apparatus..... 805
Electricity (see also *Thermo cautery*), How to apply, 790; — for fibroids, 495; — for impotence, etc., 332; — in malingering, 303; — in medicine and surgery, 625, 695, 790, 846, 932; — for nervous vomiting, 824; — for neuroses, 567; — for opium habit, 261; Practical observations on —, 357; — for skin diseases..... 232
Electro-diagnosis, 704; — physiology, 695; — surgery..... 982
Electrolysis, 932; — of uterine fibroids 336
Elephantiasis, Treatment of..... 134
Ellzey's (Dr.) address .....T. 344
Elm, see *Slippery elm.*
Elytrotomy, see *Laparo-elytrotomy.*
Emboli, fatty, in fractures..... 965
Emissions, seminal, see *Seminal emissions.*
Endocarditis, see *Heart disease.*
Enemata, Alimentation by, 541; — of meat with pancreas, 592; — passing through entire alimentary canal 6, 551
Epilepsy. Curara for, 301; Faradism in malingering —, 303; Electricity for —, ... 854
Epileptiform coma mistaken for apoplexy..... 968
Epithelial cancer early recognized..... 830
Erectile tumor. Electrolysis of 934
Ergot for fibroids, 32; — for migraine, 749; — as an oxytocic..... 42
Erysipelas, Local treatment of..... 300
Esmarch's bandage for aneurism, 595; — — for hernia..... 826
Ether versus chloroform..... 722
Ethyl bromide..... 722
Ethyl iodide for asthma 37
Eucalyptus for cancer..... 901
Evisceration for delivery..... 400
Exophthalmic goitre, Electricity for.. 855
Exsection at hip joint, Result of..... 85
Eye and Ear Hospital, Presbyterian.. 838
Eye (see *Amblyopia*; also *Iritis*; also *Retina*), Bone growing in, 345; Extraction of bone from —, 216; — diseases, 665; Expression of — changed in neurasthenia, 173; Injuries of — from pin, 228; Pilocarpin in — surgery, 135; Tumor between —, 143; Unusual wounds of —, 9; Yellow oxide of mercury in — diseases, 649; Curious — injury, 969
Eyelids (see also *Blepharitis*, *Blepharoplasty*), Microscopy of calf's, T., 404; Syphilis of —, ... 266
Eyesight, Tobacco effect upon 749

Facial paralysis..... 91
Fæcal obstruction, Cases, 402; Morphia for — —, ... 27
False unicorn, see *Helonias.*
Faradism and Faradization, see *Electricity.*
Fascia, Microscopy of..... T., 404
Fat diet for skin diseases..... 542
Fatty degeneration due to brain injury 409
Fatty emboli in fracture..... 965
Febrifuge (see also *Antipyretics*), Cheap..... 412
Felons, bone, Treatment of..... 597
Femoral artery wounded 831
Femur, Fracture of..... 83, 290
Ferments, Anti, Value of in surgery 558
Ferro-cyanide of potassium, see *Potassium ferro-cyanide.*
Fever, Hay, see *Hay fever*; Mountain —, see *Mountain fever*; Nature and treatment of —, 633, 707, 817, 839; Puerperal —, see *Puerperal fever*; Scarlet —, see *Scarlatina*; Splenic —, see *Splenic fever*; Typhoid —, see *Typhoid fever*; Typhus —, see *Typhus fever*; Yellow —, see *Yellow fever.*
Fibroids (see also *Fibroma*), Electrolysis of, 336, 939; Ergot for —, 32; Galvanism for uterine —, ... 495
Fibroma of uterus, 241; — of vocal cord removed..... 193
Fidgetness in neurasthenia..... 166
Fissure of anus, etc., Treatment of... 394
Fistula, vesico-vaginal, see *Vesico-vaginal fistula.*
Flushing in neurasthenia..... 166
Fœtus eviscerated for delivery, 400; Scarlatina of fœtus in utero 967
Forceps, Uses of Obstetric.....T. 574
Fowler's solution, strychnia and dialyzed iron incompatible..... 670
Fracture, Acetic acid hypodermically for ununited, 598; Fatty emboli in —, 965; — of femur, 83, 290; Shortening after — of long bones, 339; — of patella, 831, 380; — of ribs, 831; Splints for —, 727; — near wrist 340
Furuncles, see *Boils.*

Gaillard, Dr. E. S..... 25
Gall-bladder dropsy, Cholecystotomy

for..... 347
Galvanism and Galvanization, see *Electricity.*
Gangrene arrested by ligating arteries, 23; Hospital — and diphtheria identical 337
Gas (see also *Oxygen gas*), Effects of nitrous oxide..... 117
Gastrotomy for irreducible retroversio uteri..... T. 389
Gelseminum for malarial fever..... 236
General paralysis, diagnosis..... 58
Generation, Spontaneous..... 143
German measles..... 106
Germs, Disease..... 338
Gland, Diseased lymph, see *Lymphoma*; Thyroid —, see *Thyroid gland.*
Glass, chip, in posterior eye..... 9
Glycerin in consumption..... T. 494
Glycerite of alcohol..... T. 494
Glyconin..... T. 499
Glycosuria after brain injury..... 409
Goa powder, see *Chrysophanic acid.*
Goitre, Electrolysis of, 937; Exophthalmic —, see *Exophthalmic goitre.*
Gold-platinum staining for microscopy..... T. 407
Gonorrhœa, Treatment, 263; — in women..... 373
Gonorrhœal ophthalmia..... 441
Gout in skin diseases, 393; Spinal —, 298
Graduates, medical, in U. S., 1878, ... 80, 353
Gums tender in neurasthenia..... 165
Gynæcology, Advances in..... T. 377

Hæmacytometer..... 880
Hæmaturia complicating mumps..... 345
Hæmoptysis, Treatment of..... 296, T. 491
Hæmorrhage from lungs, see *Hæmoptysis*; Monthly — from pedicles after ovariotomy, T., 390; Treatment of post-partum —, T., 372; — from womb (see also *Post-partum hæmorrhage*), Viscum album for..... 42
Hæmostatic, Potassium bromide externally..... 596
Hare lip, cleft palate, etc., 404; — — in the syphilitic..... 273
Harvard University graduates..... 353
Hay fever, Philosophy of..... 168
Health Board, National, T. 515, T. 521, T. 525; Public — legislation about 914; — resorts,...T., 395, T. 448
Hearing, see *Ear.*
Heart, dilated, Right, 831; — disease in puerperal women..... 309
Helonias for dysmenorrhœa..... 446
Hemicrania, Treatment of..... 134
Hemiplegia, Trembling on opposite side in..... 409
Hepatic, see *Liver.*
Hernia, Dowell's operation for, 492; — reduced by Esmarch's bandage, 826; Strangulated — relieved by enema, 552; Collodion bandage for umbilical —, 827; — of iris..... 969
Herpes circinatus, Chrysophanic acid for, 51; — treatment of tonsurans, T. 741
Hiccough cured by compression..... 497
Hip joint disease, see *Coxalgia*; — — dislocation, unsuspected, 236; Result of exsection of — —,..... 85
Histology, Report on..... T. 402
Homœopathy, 158; Joke about — 8; Tenets of —,..... 140
Hopkins University..... 751
Hospital gangrene, see *Gangrene*; — pavilion, 20; Presbyterian Eye and Ear —,..... 838
Hudson's extensor leg..... 82
Humerus, Sub-coracoid dislocation of, reduced..... 217
Hydatids of kidney..... 282
Hydrargyrum oxidum flavum, see *Mercury yellow oxide*; — oxymuriates (see also *Mercury*) for purpura hæmorrhagica..... 16
Hydrarthrosis, Intermittent..... 473
Hydrocyanic acid for fever..... 718
Hydrophobia, Case of cause doubtful, 895; — due to scratch of owl not rabid, 412; — in a puerperal woman, 296; Recovery of case of, 422
Hydrorrhœa gravidarum..... 447
Hygeia Hotel..... 159
Hygiene, for consumption, T. 504; Report on —, 327; Sexual —, 58; — for skin diseases, 536; Text-book on —,..... 415
Hyperæsthesia due to chloral..... 69
Hyperpyrexia, see *Fever.*
Hysteria, Camphor for, 902, Electricity for —,..... 851
Hysterotomy..... 299

Ichthyosis linguæ..... 386
Idiosyncrasy in neurasthenia..... 167
Ileo-sacral disease, see *Sacro-iliac diseases.*
Impotence, Electricity for, 332; — in neurasthenia..... 172
Incompatibility of dialyzed iron, etc..... 670, 899
Incontinence of urine, Pessary for, T. 388
Indian hemp, see *Cannabis Indica.*
Inebriates (see also *Alcoholism*; also *Opium eating*)..... 118
Infantile diarrhœa, see *Diarrhœa*; — innutrition, 99; — scarlatina..... 967
Inflammation treated by ligature of arteries..... 23
Inhalation for consumption..... T. 500
Injection passing through alimentary canal, 551; — of milk into veins, T. 381; Safe method for uterine —,..... 366

Ink for tin or zinc labels 127
Innominate artery, Aneurism of. 598
Innutrition, Infantile 99
Inoculation for typhoid fever.....T. 428
Insane, Examination of, 66; General paralysis of the —, ... 143
Insect poisoning, Morphia for..... 887
Intermittent hydrarthrosis 473
Interosseous splint, Ulno radial..... 127
Intertrigo, Infantile ....T. 362
Intestine (see also *Alimentary canal, Bowels, Fæcal obstruction*), occluded, Morphia for, 27; Mercury for occluded —, 900; — permeable by enema..... 551
Intussusception (see also *Intestine, etc.*), Enema for..... 557
Iodic purpura..... 354
Iodide of ethyl, see *Ethyl iodide*; — of potassium, see *Potassium iodide*.
Iodine tincture, Colorless, 98, Tincture — injected into knee-joint..... 297
Iodized milk, 275; — phenol..... 7
Iodoform for chancroids 263
Ipecac treatment of dysentery..... 17
Iris, Hernia of..... 968
Iritis, Calomel for..... 276
Iron, dialyzed, 159, 690, 899, 972; Tincture — for night sweats, T. 491; Perchloride of — for croup, 472; Bedford Alum and — Springs..... 718
Irritation, Spinal, see *Spinal irritation*..... .....
Itching, see *Pruritus*. .....

Jaborandi (see also *Pilocarpin*), Action of, 133; — for dropsy, 29; — antipyretic, 841; — for Bright's disease, 276; — for scarlatinal sequelæ..... .....967, 971
Jamestown weed poisoning..... 962
Jaw bone, see *Maxilla*..... .....
Joints (see also *Hip-joint;* also *Knee-joint*), Syphilis of 270
Journalistic:
American Journal of Otology..... 918
American Medical Review and Index..... 513
Archives of Medicine..... 918, 980
Archives of Ophthalmology..... 918
Archives of Otology..... 918
Brain..... 239
Druggist and Chemist..... 780
Hospital Gazette and Archives of Clinical Surgery..... 238
Index Medicus..... 836
Lancet and Clinic..... 433
Maryland Medical Journal..... 79
Neurological Contributions..... 980
Obstetric Gazette.....159, 513
Southern Clinic..... 512
Southern Practitioner.....780, 836
Virginia Medical Monthly..... 980

Kaolin for gonorrhœa..... 263
Kidney (see also *Renal*; also *Bright's disease*), Hydatids of, 282; Abscess of —, ... 967
Knee dislocated..... 84
Knee-joints, inflamed and amputated, 82; Inflamed — complicated by fracture of femur, 83; Dropsy of —, see *Hydrarthrosis*; Hooper's apparatus for — disease, T. 467; Antiseptic treatment of — wounds, 676; Iodine injected into —, 296; — opened..... 963
Knots, Surgical, New.....219, 295, 411

Labor (see also *Breech Presentation;* also *Obstetrics*). Atropia to shorten first stage of, 425; Chloroform in —, 223, 400; Remarkable twin —,. 967
Lactic acid spray for diphtheria..... 500
Lactopeptine..... 431
Laparo elytrotomy instead of Cæsarean section.....60. T. 370
Laryngeal growths removed..... 191
Laryngitis, Syphilitic 268
Laryngoscope, Value of..... 191
Laryngotomy, 958; — for foreign body in larynx..... 216
Larynx of croup, Membrane of, 831; Foreign body in —,..... 216
Lashes, Loss of, see *Alopecia Palpebrarum*.
Lateral spinal curvature..... T. 439
Lead poisoning, Salt for, 291; — — by tinned ware..... 416
Leg, Hudson's extensor, and Mark's artificial..... 82
Lens and capsule extracted by finger, 13
Leucocythæmia, Blood of 877
Leucoplakia buccalis..... 386
Lichen inveteratus, Chrysophanic acid for, 52; Chrysophanic acid for — planus..... 52
Ligating spermatic cord, Method of.. 297
Ligature of arteries to cure inflammation, 23; — of common carotid artery successful..... 408
Lime water and milk compatible with calomel 346
Lip, hare, see *Hare-lip*.
Lithia water, Buffalo, to prevent scarlatinal albuminuria..... 671
Lithotomy, Case of, 215, 230; Experience in —, 141; Fifty-two Cases of —,..... 498
Liver, cirrhosis of, Abdomen punctured for..... 592
Localization of spinal lesions..... 406
Lock jaw, see *Tetanus*..... 53
Locomotion impaired by abnormally soft womb.....T. 386
Locomotor ataxy, Electricity for, 570, 868
Lunatics, see *Insane*.
Lung, Disease of, see *Consumption;* also *Pneumonia;* Hæmorrhage from —, see *Hæmoptysis;* Minute anatomy of —, T. 406; Treatment of hæmorrhage from —,.....T. 491
Lupus, Syphilitic, 390; Rasping for

— vulgaris 595
Luxation, see *Dislocation.*
Lying in, see *Obstetrics.*
Lymph glands, Arsenic for tumors of 35
Lymphoma, Arsenic for 35

Malarial fever, Gelseminum for..... 236
Malingering, Faradism to detect..... 303
Mammary neuralgia due to versio-uteri..... 115
Mania, Camphor for 902
Mark's artificial leg..... 82
Masturbation, 56; Prize essay on —, ...693, 836
Maxilla, inferior, dislocated, 220; Inferior — restored after removal, 208; Cleft superior —,..... 404
Measles, Thermometry of, T. 369; German —,..... 106
Meat juice, Valentine's..... ...432, 603
Meat with pancreas, Enema of..... 592
Membrana tympani ruptured..... 228
Menorrhagia, Electricity for.....365, 863
Menstrual disorders, Buffalo Lithia Water for, 898; Helonias for — —, 446; Viburnum prunifolium for — —,..... 294
Menstruation after double ovariotomy, T. 390; Painful — (see also *Dysmenorrhœa*) requiring Battey's operation .....T. 432
Mercury (see also *Calomel*) for occlusion of bowels, 900; — for purpura hæmorrhagica, 16; Yellow oxide of — in eye diseases..... 640
Mesentery, Microscopy of .....T. 404
Metric system.....239, 463
Microphone (see also *Telephone*) in diagnosis 424
Microscopy, Report on.....T. 402
Migraine, Cases of, 573; — cured by ergot, 749; Electricity for —,. 362
Milk injected in veins, T. 381; Iodinized —, 275; — and lime water compatible with calomel..... 346
Mineral waters, Virginia, to be investigated.....T. 518, T. 526
Miners' phthisis, Case of 342
Mistletoe, see *Viscum Album.*
Modern physician in society.....T. 344
Moore, Surgeon General 20
Morphia (see also *Opium*) in acute uræmia, 451; — for fæcal obstruction, 27; — for reptile poisoning... 887
Morphiamania, see *Opium Habit.*
Morphinismus and transfusion..... 671
Morphology of syphylitic and consumptive blood..... 746
Mother's marks, see *Nævus.*
Mountain fever..... .....T. 398
Mumps complicated by hæmaturia.... 345
Muscæ volitantes in neurasthenia..... 179
Muscarin, Effects on sweat centres.... 576
Muscular atrophy, Progressive, 570; — contractions affect temperature, 127; Electricity for — —,..... 869
Mustard baths for pneumonia of children .....T. 360
Mutamba astringent..... 301
Myelasthenia a symptom of neurasthenia 163
Myomata of uterus..... 241

Nævi, Neurotic 388
Narcotism, Scalding water for..... 584
Nasal polypi, Thermo-cautery for..... 212
National Quarantine Report of Supervising Surgeon-General ...432, 511, 599
Nausea, Electricity for 857
Necrosis of tibia.....85, 86
Nélaton's method failed 113
Nephritis, see *Bright's disease.*
Nerve elements of lung .....T. 409
Nervous asthenia, see *Neurasthenia.*
Neuralgia, Electrity for, 846; Flying — a symptom of neurasthenia, 166; Faradism for — of 5th pair, 361; Mammary — due to versio-uteri, 115; — of pneumogastric and sympathetic, 571; Reflex —,..... 304
Neurasthenia 161
Neuroses of pneumogastric and sympathetic..... 565
Neurotic nævi..... 388
Nipples, fissured, Treatment of..... 394
Nitrite of amyl, see *Amyl nitrite.*
Nitrous oxide gas effects.. 117
Normal ovariotomy, see *Battey's operation.*
Nose, see *Rhinitis.*
Nutrition affected by electricity..... 703

Obituary notices, Requests about..... 513
Obituary Record:
Dr. Washington L. Atlee.....604, 918
" D. W. Booth..... 514
" Thomas R. Brown..... 918
" E. M. Campbell.....435, 436, T. 516
" E. T. Easley..... .....694, 781
" W. F. Figgat.....694, T. 510
" Peyton Grymes..... 604
Prof. Joseph Henry. 240
Dr. Crawford W. Long.....434, 515
" W. W. Maclin.....514, T. 510
" R. L. Madison.....240, T. 509
" C. L. McInnis..... 604
" M. J. Moses..... 240
" Dan Preston Payne..... 694
Prof. Karl Rokitansky..... 514
Dr. Edwin C. Teeter..... 838
" Joseph B Whitehead.....160, T. 508
" R. D. Winsett..... 240
Yellow Fever Victims. 601
Obstetrics, Anæsthesia in, 223; — forceps, see *Forceps;* Report on — T. 370; Statistics of —,..... 301
Obstruction of bowels, see *Intestinal obstruction*, Fœcal —,..... 402
Occlusion of bowels, Mercury for, 900; — of vagina requiring Battey's operation..... .....T. 432
Œsophagus, Foreign body in, Apomorphia for..... .....T. 361

Oil, Cod liver, *see Cod liver oil.*
Oil of sandal wood for catarrh..... 831
Ophthalmia (see *Eye*), Gonorrhœal, 441; Mercury yellow oxide in phlyctenular —, ... 640
Ophthalmology, see *Eye diseases.*
Opium (see also *Morphia*), Action of, 256; — antipyretic, 824; — for consumptives, T. 502; — eating, 118; — habit in consumption, 289; Treatment of — habit, 256; Rhubarb to prevent — nausea, 888; — poisoning relieved by scalding water 578, 735
Organic phosphates..... 455
Osmic acid stainings .... T. 403
Os uteri cauterized for vomiting of pregnancy, T. 386; — — dilated to relieve vomiting of pregnancy...T. 385
Otorrhœa, Treatment of..... 136
Ovarian cysts, Permanent fistula for, 299; Electrolysis of — tumors.. ... 940
Ovaries removed, see *Ovariotomy.*
Ovariotomy, Case of, 395; Double —, T. 522; — during peritonitis, T. 391; Menstruation after double —, T. 390; Normal —, see *Battey's operation;* To control high temperature after —, T. 391; Ureter injured during —..... ....T. 389
Owl scratch causing hydrophobia..... 412
Oxide nitrous, see *Nitrous oxide gas;* Yellow — of mercury in eye diseases 640
Oxygen gas for diphtheria.....T. 454
Oxymuriate of mercury, see *Mercury oxymuriate.*
Oxytocic, Ergot as an, 42; — properties of quinia, 221; Quinia not —, 30; Quinia —, 971; Viscum album as —..... 42
Oyster shucker's corneitis 883

Pain due to chloral..... 69
Palate cleft, see *Cleft palate.*
Palsy, Writer's, Electricity for..... 869
Pancreas and meat, Enema of..... 592
Papilloma of larynx removed.192, 194, 197
Paralysis agitans, Electricity for, 868; Electricity for —, 865; Electricity for infantile —, 866; Electricity for peripheral —, 867; — of facial nerve, 91; Diagnosis of general —, 58; General — of insane. 143, 340
Paraplegia, Electricity for.....363, 364
Parasites, Vegetable 389
Paresis, general, Pathology of..... 340
Paris, Medical statistics..... 903
Parotiditis, see *Mumps.*
Patella, Treatment of fractured...380, 831
Pedicle after ovariotomy, Monthly hæmorrhage from .....T. 390
Pemphigus, Arsenic for..... 394
Penitentiary, Yellow fever in Virginia. 661
Perchloride of iron, see *Iron perchloride.*
Perineal cystotomy, see *Cystotomy;* — urethrotomy 466
Perineorrhaphy, Clamp for..... 334
Peritonitis, Vomiting during.....T. 391
Permeability of alimentary canal by enema..... 551
Personals:
R. V. Anderson, M. D. 837
Robert Battey, M. D..... 837
Bickford Knitting Machine Co. 79
Harvey Black, M. D. 540, 943
Nathan Bozeman, M. D. 160
J. J. Chisolm, M. D. 78, 783, 837
F. D. Cunningham, M. D. 431
William C. Dabney, M. D. 604
Albert Fairfax, M. D. 80
C. N. Fowler, M. D. 514
William Goodell, M. D. 435
Eugene Grissom, M. D 907
Hygeia Hotel 253
Henry C. Lea 789
Marine Hospital Service 240
Hunter McGuire, M. D. 491, 604
Parke, Davis & Co. 513
Alban S. Payne, M. D. 789
J. L. Powell, M. D. 513
George Reuling, M. D. 354
Lewis A. Sayre, M. D. 603
J. Marion Sims, M. D. 603
S. S. Stauffer, M. D. 431
H. R. Storer, M. D 78
Mann S. Valentine 430
J. P. Wall, M. D. 79
F. B. Watkins, M. D. 514
Wm. Wood & Co. 604
Perspiration, unilateral; with temperature rise 284
Pertussis, see *Whooping cough*
Pessary, Fowler's uterine, 514; — for incontinence of urine..... .....T. 388
Petroleum for whooping cough 475
Phagedenic ulcers, Thermo-cautery for..... 214
Phenol, see *Carbolic acid;* also *Iodinized phenol.*
Philadelphia, Tariff abolished in..... 79
Phlyctenular ophthalmia..... 540
Phosphates, Organic, 455; Vitalized —,..... .....354, 459
Phosphoric acid for night sweats .T. 49
Phosphorus for alcoholism, 123; — for consumption, T. 428, — for nutrition 101
Phthisis (see also *Consumption*), Is it preventable, 729; Geography of —, 471; Hygienic prophylaxis of —, 595; Case of miner's —, 742; Treatment of —, ...308, 741
Physician, Allowance to Virginia, 354; Modern —,..... .....T. 344
Picrate of ammonia (see *Ammonia picrate*) in whooping cough..... 748
Pigmentary syphilide..... 271
Pilocarpin (see also *Jaborandi*) for eclampsia, 829; — in eye surgery, 135; Effect of — on sweat centres. 577
Pitcherine, Uses of..... 70
Pityriasis versicolor, Chrysophanic acid for, 51; Treatment of — —,.. 741

Placenta prævia, Treatment of, 743; — retained 596
Plethora, Blood of..... 873
Pleurisy, Treatment of..... 474
Pneumogastric, Electrization of, 699; Neuroses of —..... 565
Pneumonia, Anomalous case, 343; Croupous —, 958; Mustard baths for — of children, T. 360; — in Western States, etc.....T. 397, T. 519
Poisoning by lead, 291; Opium —, see *Opium*; — by reptiles, etc., 887; — by stramonium, 962; — by tobacco, 749; — by viscum album, 45
Polypus, Nasal, Thermo-cautery for, 212; — of throat..... 144
Pons Varoli, Syphilis of..... 266
Porrigo decalvans, Chrysophanic acid for..... 51
Post-partum hæmorrhage, Viscum for, 44; Treatment of — — —,..... 303
Potash, Arsenious solution, see *Fowler's solution.*
Potash chlorate for diarrhœa..... 300
Potassium bromide externally hæmostatic 596
Potassium, ferrocyanide, Action of .. 127
Potassium iodide for asthma..... 37
Potassium salicylate antiseptic...561, 562
Pott's disease, see *Spondylitis.*
Pregnancy, Albuminuria of, 898; — at 8 years of age, 262; Cervix uteri cauterized for vomiting of —, T. 385, T. 386, 469; Scarlatina during —, ... 967
Prescription for dropsy, 31; — writing 480
Presentations, Breech..... 40
Pressure in uterine disease..... 475
Priapism cured by dilating urethra... 29
Prize of $500, 604; — of $25.....693, 836
Professional tariff abolished in Philadelphia..... 79
Progressive muscular atrophy, 570; — locomotor ataxia..... 570
Prolapsus uteri, Electricity for 859
Propiphenyl, Hydrate of ..... T. 496
Pruritus a symptom of neurasthenia, 164; Obstinate — vulvæ..... 748
Psoriasis (see also *Alfelasma*), Chrysophanic acid for, 52, 230: Fat diet for —, 542, Treatment of chronic —, 134, 595; Treatment of — vulgaris..... 741
Puerperal women, Causes of sudden death of, 309; Antiseptic treatment of — fever, 366; Cases of — eclampsia, 839: Intoxication due to — uterus washed with carbolic acid... 828
Pulse of small-pox .....T. 524
Purpura hæmorrhagica cured by mercury, 16; Iodic —,..... 394
Purpurine staining for microscopy.T. 404
Pus in urine 967
Quarantines, 738; Need of land — against yellow fever, 643; History of —, 188; Need of National —, T. 457; Proceedings of American Public Health Association ab ut —, 751; Resolutions about —, T. 525; Quarantine Report, see *National Quarantine*: Dr. Byrd favors —, 919: Dr. Burroughs opposes —, 944
Quinia, Action of on fœtus, T. 363; — in febrile consumption, T. 485; — not oxytocic, 30, 221; Phenomena of large doses of sulphate —, T. 464: Sulphate — antiseptic, 561, 563; — for fever, 712; — to prevent surgical shock, 430, 510; — oxytocic 971
Rabies, see *Hydrophobia.*
Rectum, Cancer of, 227; Artificial anus for cancer of —, 964, Alimentation, etc., by —, 341. — everted by pressure per vaginam, 342; Syphilis of —,..... 271
Recurrent tumor of Eye, Acetic acid for..... 667
Relapsing and remittent tendency of relieved consumption.....T. 596
Renal (see also *Kidney*) asthma, 287; — form of typhoid fever 124
Reptile poisoning, Morphia for.. 887
Rest for consumption.....T. 489
Retina, Cysticercus under..... 825
Retroversio uteri, irreducible, Gastrotomy for.....T. 389
Rheumatism, Syphilitic, 270; Electricity for —, ... 867
Rhinitis, Syphilitic..... 267
Rhizopodal catarrh..... 835
Rhizopods a cause of disease.....605, 692
Rhode Island Board of Health..... 159
Rhubarb to prevent nausea of opium. 888
Ribs, Fracture of..... 831
Richmond Academy, see *Society Proceedings*; Case of transported yellow fever in —, 668; — liable to yellow fever 647
Ringworm, Chrysophanic acid for.... 51
Rötheln, Endemic of..... 105

Sacro-iliac disease, Differential diagnosis of..... 86
Salicin for diabetes..... 597
Salicylate of potassium, see *Potassium salicylate.*
Salicylic acid causing tympanites, T. 427; — — for fever, 708; — — in children's diseases, T. 363; — — for typhoid fever..T. 424, T. 426, T. 427
Salisbury's diet table for consumption, ...T. 503
Saliva, medium of syphilis.....264, 827
Salt, common, for lead poisoning..... 291
Sandal wood oil for catarrh..... 831
Sanitary legislation by Congress..... 914

Sarcoma, Multiple, of skin..... 391
Sarcomatous degeneration of ovary... 395
Scalp tender in neurasthenia 163
Scarlatina. Albuminuria of. Buffalo Lithia Water to prevent, 671; Complications of —, 185, T. 364; Sodium sulpho carbolate for —, T, 361; Morphia for uræmia of —, 451; Jaberandi for — sequelæ, 967, 971; — in pregnancy and fœtus.... 967
Sclerosis, Diagnosis of multilocular. 58; Multiple — of brain and spinal cord..... 969
Scrofulides 392
Scrofulous ulcers, Treatment of..... 134
Seminal emissions in neurasthenia.... 172
Septicæmia, see *Antiseptics*; also *Puerperal fever.*
Sexual hygiene 55
Shock. Quinia to prevent surgical, 430; Correction about —, ... 510
Sight (see also *Eye*), sudden recovery of..... 437
Skin (see also *Dermatology*) atrophy, 391, 392; Chrysophanic acid for — diseases, 46, 900; Diet for — diseases, 536; Gout in — diseases, 393; Multiple sarcoma of —..... 391
Slippery elm tent..... 445
Small-pox, pulse of..... T. 524
Society and Health Board Proceedings:
Abingdon Academy of Medicine..... 154
Alabama State Medical Association..... 149
American Medical Association..... 304, 354
American Public Health Association, 635, 752, 778
Baltimore Academy of Medicine, 136, 228, 302, 678, 748, 967
Baltimore Medical and Surgical Society, 745, 831
Florida State Medical Association..... 149
Georgia Medical Association..... 152
Maryland Medical and Chirurgical Faculty.. 144
Michigan State Board of Health.. 415
North Carolina, Medical Society of..... 250
Richmond Academy of Medicine..... 40, 341, 412, 743, 917, 970; Library Association of —..... 980
South Carolina State Medical Association, 145, 239
Texas State Medical Association.. 137
Virginia, Medical Society of..... 509, 686, 836, T 331-556 inclusive.
Soda bicarbonate for burns, 70; — — for diarrhœa, 300; — salicylate for typhoid fever ..... T. 426
Sodium chloride, see *Salt.*
Sodium sulpho-carbolate for diphtheria, 201; — — for scarlatina. T. 361; — — for yellow fever..... 462
Solution arsenite of potash, see *Fowler's solution.*
Spanish census..... 133
Specula, Urethral..... 281
Spermatic cord, Method of ligating, 297; Cooper's — truss..... 431
Spermatorrhœa, Electricity for..... 332
Spina bifida cured 405
Spinal cord, Action of electricity on, 697, Lateral — curvature (see also *Spondylitis*). T. 439; Diagnosis of — diseases, 58; — gout, 297; — irritation in neurasthenia, 163; Electricity for — irritation, 855; Commotion of — marrow, 406; Multiple sclerosis of — cord..... 969
Spleen, Function of..... 361
Splenic fever ..... T. 420
Splint. Coaptation, 724; Interosseous —, ... 727
Spondylitis, Lecture on, T. 439; Reference to —, 307; New apparatus for —, 155; — of cervical vertebræ 81
Springs, Virginia mineral, to be investigated..... T. 518, T. 526
Staphyloma, Ciliary 665, 666
Statistics of lying-in hospitals..... 301
Stenosis of uterine neck .... T. 378
Stomach, Electricity for dilated, 869; Microscopy of —, ... T. 411
Stone in bladder, see *Calculus.*
Stramonium poisoning 962
Strangulated hernia relieved by enema 552
Strictured urethræ, Electrolysis for, 942; Calculus causing symptoms of — —, 746; Otis' treatment of — —, 231; Urethrotomy for — —,... 466
Strychnia, arsenic and dialyzed iron incompatible, 671, 899; — for tobacco poisoning 750
St. Vitus dance, see *Chorea.*
Students, medical, Success of. 513
Submaxillary abscess, Singular discharge from..... 403
Subnitrate of bismuth, see *Bismuth subnitrate.*
Sulpho-carbolate of sodium, see *Sodium sulpho-carbolate.*
Sulphuric acid for night sweats.....T. 49
Suppressio urini, Buffalo Lithia Water for..... 898
Surgery, Electro..... 932
Sweat (see also *Perspiration*) centres, 565; Treatment of night —, T. 490; Peculiarities of —,..... 572
Sycosis of head, Treatment of..... 134
Symblepharon, Idiopathic, 675; Successful operation for —,..... 665
Sympathetic, Electrization of, 575, 699; Neuroses of —, ... 565
Syphilide, Pigmentary..... 271
Syphilis of brain arteries. 269; — of bursæ and joints, 270; Diet for —, 544; Diagnosis of disseminated —, 58; — of eyelids, 266; Hereditary —, 272; — of larynx, 268; — in negro and whites, 420; — of nose, 267; — of pons Varolii, 266; — of rectum, 271; — communicated by saliva, 264, 827; — communicated by tattooing, 266; Tayuya for —,.. 34
Syphilitic blood, Morphology of, 746; — lupus, 390; — rheumatism, 270; Treatment of — ulcers..... 134
Syphiloma, Giant cells in..... 264

Tabetic cerebro-spinal diseases, Diagnosis of..... 58
Talipes, Battey's treatment of, 2; Equino-varus — with luxation of knee..... 84
Tampon for womb diseases..... 475
Tape worm impostor..... 913
Tapping for hepatic cirrhosis..... 502
Tariff abolished in Philadelphia..... 79
Tattooing medium of syphilis, 265; — the cornea..... 969
Tayuya, 275; — for syphilis..... 34
Teeth (see also *Dentition*) Cause of decay of, 107; — tender in neurasthenia..... 165
Telephone to diagnose calculus..... 293
Telescopophone..... 351
Temperature (see also *Thermometry*) affected by muscular contractions, 127; — in unilateral sweating..... 284
Tendon, Microscopy of.....T. 402
Tent, uterine, Elm bark, 445; Pith of corn stalk for — —..... 424
Tetanus, Chloral locally for, 564; Treatment of —..... 53
Thermo-cautery for nasal polypi, and phagedenic ulcers, 212; — — for uterine cancer..... 674
Thermometry (see also *Temperature*) in children, T. 365; High — after ovariotomy.....T. 391
Throat, Polypus of..... 144
Thymol, antiseptic..... 69
Thyroid gland removed..... 338
Tibia, Necrosis and abscess of, 85; Inflammation of —..... 86
Tincture iodine colorless, 98; — of muriate of iron, see *Iron*.
Tinea circinatus, Chrysophanic acid for, 51; — tonsurans, Chrysophanic acid for..... 51
Tinned ware causing lead poisoning, 416
Tinnitus aurium in neurasthenia..... 179
Tissue, connective, see *Connective Tissue*.
Tobacco on sight, Effects of..... 749
Tongue lost, articulation restored..... 302
Tonics in consumption.....T. 501
Tonsurans, see *Tinea Tonsurans*.
Torticollis, Electricity for..... 856
Trachea, Perchloride iron injected into, for croup, 472; — compressed by aneurism..... 958
Tracheotomy for croup, 67; Bloodless —, 295; — for diphtheritic croup, 970, T. 359; — without tubes 337
Transfusion of blood, 133; — and morphinism, 671; Intravenous injection of milk instead of — of blood.....T. 381
Trembling on opposite side in hemiplegia..... 409
Triple births, Case of..... 218
Truss, Cooper's spermatic..... 431
Tschaudu..... 257
Tubercle of bones..... 306
Tumor (see also *Polypus*) Intra-orbicular, 143; Electrolysis for erectile —, 934; Electrolysis of cystic —, 936; — of lymph glands, see *Lymphoma*; Rapid development of ovarian —, 395; Electrolysis of ovarian —..... 940
Turnera aphrodisiaca, see *Damiana*.
Twin labor, Remarkable..... 967
Turpentine with chloroform..... 227
Tying knots, New plan.....219, 295
Tympanites due to salicylic acid...T. 427
Typhoid fever, Sudden death and syncope in, 38; Dyspepsia after — —, 827; Etiology of — —, 300, T. 415, 517; — — of renal form, 124; Thermometry of — —, T. 368; ammonia in — —..... 970
Typhus fever, Note on.....T. 416

Ulcers, scrofulous, Treatment of, 134; Electrolysis of —, 942; Thermo-cautery for phagedenic —, 214; Syphilitic — treated..... 134
Ulmus, see *Slippery Elm*.
Ulno-radial splint..... 727
Umbilical hernia, Collodion bandage for..... 827
University of Virginia..... 353
Uræmia, Buffalo Lithia Water for, 898; Morphia in —..... 451
Urethra dilated to cure priapism, 29; Diseases of female —, 277; Hydatids of —, 282; Otis' treatment of stricture of —, 231; Urethrotomy for stricture of —..... 466
Urethral specula, 281; calculi causing symptoms of — stricture..... 746
Ureter, artificial, after ovariotomy, T. 389
Urethrismus..... 278
Urethritis, see *Gonorrhœa*.
Urethrotomy, Perineal, without a conductor..... 466
Uric acid diathesis, Buffalo Lithia Water for..... 898
Urine (see also *Hæmaturia*) Buffalo Lithia Water for suppression of, 898; Pessary for incontinence of —, T. 388; Pus in —..... 967
Utah, Climate of.....T. 399
Uterine cancer, Thermo-cautery for, 674; — cavity safely injected, 366; Electrolysis for — fibroids, 336; Ergot for — fibroid, 32; Galvanism for — hæmorrhage (see also *Hæmorrhage*, 495; Viscum album for — hæmorrhage, 42; — mouth, see *Os uteri*; — neck, see *Cervix uteri*; Corn-stalk pith for — tent... 424
Utero-vaginal canal occluded, Battey's operation.....T. 432
Uterus absorbs carbolic acid, 828;

Bromine for cancer of —, 991; Displacement of — due to abnormal softness, T. 386; Fibro-myoma of —, 241; — extirpated, 901; Gastrotomy for inverted —, T. 389; Inverted —, 303; Pressure in treating diseases of —, 475; Prolapsed —, see *Prolapsus uteri*; Electricity for undeveloped —, 860; Version of — causing mammary neuralgia..... 115

Vaccination in treatment of small-pox..... T. 524
Vagina double, 135; — obliterated, 135; — occluded, Battey's operation..... T. 432
Vaginal fistula, Vesico-, see *Vesico-vaginal fistula.*
Vaginismus, Treatment of..... 125
Varicella in infant a day old..... 500
Varicocele, Cure of..... 671
Varicose veins, Treatment of, 125; Electrolysis of — —,..... 941
Vascular caruncle of urethra..... 277
Vaso-centres..... 565
Vegetable parasites..... 380
Veins, Milk injected into, T. 381; Varicose —..... 125, 941
Venereal diseases, Progress in..... 263
Venesection, see *Blood-letting.*
Veratrum viride, Action of, 773; — — antipyretic..... 820
Version, Cephalic, T. 300; — of uterus causing neuralgia..... 115
Vertebra diseased, see *Spondylitis.*
Vesico-vaginal fistula, Battey's operation for.....2, 3, 4
Viburnum prunifolium a uterine sedative..... 294, 971
Virginia Medical Society, 603; — Mineral Waters to be investigated, ...T. 518, T. 526
Viscum album as an oxytocic, and for uterine hæmorrhage..... 42
Vitality, infantile, Remarkable..... 292
Vitalized phosphates.....354, 459
Vocal cord, Fibroma of, removed, 193, 200
Vomiting, nervous, Treatment, 596, 824; — of pregnancy, cervix uteri cauterized for, 469; Treatment of — — —, ...T. 565
Vulvæ, Pruritus of..... 748

Waters of Virginia to be investigated, ...T. 518, T. 526
West, Climate of and health resorts, ...T. 395, T. 448
Wheat phosphates, 455; — flour for skin diseases..... 548
Whooping cough, Petroleum for, 475; Ammonia picrate for — —, T 361, ... 597, 748
Womb, see *Uterus* and *Uterine.*
Women's diseases, Advances in....T. 377
Wound of eye, 9; — of femoral artery, 831; Repair of —,..... 339
Wounded, Indian mode of transporting..... 290
Writers' cramp, Circular about, 158; Electricity for — —..... 860
Wry neck, see *Torticollis.*

Yellow fever, 738; Buffalo Lithia Water in — —, 898; — — Commission report reviewed, 944; — — epidemic, 508; Inoculation of — —, 901; Need of quarantine against — —, T. 457, 643; Observations on — —, 919; Opposition to land quarantine against — —, 602; Proceedings of American Public Health Association about — —, 751; Resolutions about — —, 151, T. 525; Sulpho-carbolate sodium for — —, 462; Transported case of — — in Richmond, 668; — — transported, in Prince William County, Virginia, 588; Treatment of — — until the doctor comes, 601; — — victims..... 601
Yellow oxide of mercury in eye diseases..... 640

Zinc oxide for diarrhœa..... 300